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Flora of California

1946-1952

1. West-Central California, April 20 -

May 3, 1946

Catalog

Journal

Species accounts

2. Tehuacan, Tlaxcala and Huasteca

Central, Mexico, May 24 - June 1, 1946

Catalog

Journal

Species accounts

3. Mexico, Oaxaca, May 1948

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Journal

Species accounts

4. California, miscellaneous, May

1949 - Sept 1950

Catalog

Journal

Species accounts

Davis, John
1946-1950

1. West-central California, April 30 -
May 13, 1946

Catalog

Journal

Species accounts

2. Tehama, Trinity and Humboldt
counties, California, May 24-June 15, 1946

Catalog

Journal

Species accounts

3. Mexico, June - August 1946

Catalog

Journal

Species accounts

4. California, miscellaneous, May-
1947 - Sept. 1950.

Catalog

Journal

1.
Davis, J.

April 30 - May 13, 1946

West-central California
(San Bernardino and Los
Angeles counties to Contra
Costa County)

10-7-72 8-22-72

Davis, J.

West-central California
(San Bernardino and Los Angeles
counties to Contra Costa County)

April 30 - May 13, 1946

Contents

Catalog
Journal

Species Accounts

alt 700 17213

Catalog nos. 1684-1687

Days
946

N Side Mount Diablo (Nortonville), Contra Costa Co., Calif.

March 24, 1946

1684

♂ *Pipilo maculatus*

1/2 mi. w. of Old Fort Tejon, 3500', Kern Co., Calif.

May 1, 1946

1685

Batrachoseps

1686

Eumeces

1687

Eumeces

Journal

Davis
1946

1.

~~Redwood~~ Canyon, Contra Costa Co., Calif to Sherman Oaks, Los Angeles Co., Calif.

April 30, 1946

Left home of Dr. Robert Stebbins at 6 a.m. headed for Sherman Oaks, Calif., in MVZ Dodge truck. Party consisted of Dr. & Mrs. Robert Stebbins, & the Stebbins' two small children, and myself. Ate in Merced at 10 o'clock. Arrived at Old Fort Tejon, 3350', Kern Co., Calif., at 4 p.m. Dr. Stebbins and I proceeded up a canyon due west of the old fort, for a distance of about a mile, in search of Ensatina. Stebbins had taken 2 specimens of this Salamander ^{here} in early January, 1946. The lower part of the canyon was too dry for good collecting, but conditions were better farther up. We dug into the leaf mold which had accumulated below the Quercus chrysolepis, the dominant tree in this canyon. Also tore apart two wood rat nests, one of which held a female wood rat with young. Dr. Stebbins found two Ensatina in the leaf mold under Q. chrysolepis about 1 mile up the canyon from the old fort. One was adult, the other sub-adult, both females. They were found only a few inches below the surface of the accumulated leaf mold. We returned to the car at 5:45 p.m. and proceeded to the home of Mr. & Mrs. April Stebbins in Sherman

~~Adams~~ Canyon, Contra Costa Co., Calif. to Sherman
Oaks, Los Angeles Co., Calif.

April 30, 1946

Oaks, Los Angeles Co., Calif. Where we stayed
overnight.

Sherman Oaks, Los Angeles Co., Calif.
May 1, 1946

Left at about 10:15 a.m. accompanied by
Dr. Robert Stebbins + Mr. Cyril Stebbins.
Proceeded to Old Fort Tejon, 3350', Kern Co.,
Calif.; arriving at 11:45 a.m. Proceeded
to upper part of same canyon we worked
the day before, and continued to look for
Ensatina. Dug in the leaf mold beneath
Q. chrysolepis until about 3:45 with
no results. The three of us then pro-
ceeded down canyon about 1/2 mile, then
crossed over the north wall into the
adjacent canyon. This had a small
stream in its floor. Mixed vegetation,
mostly Q. chrysolepis and Asclepias
californicus. We worked up-canyon
about 1/2 mile turning over fallen logs
and rocks, but no Ensatina were
found. Then worked back down canyon.
On the way down, collected 1 Batrachoseps
attematus (1685) and 2 Enneceus gilberti
(1686+7). See species accounts. Returned to
truck at about 6 p.m. ate supper in
gorman, + returned to Sherman Oaks
for the night.

Davis
1946

3

Sherman Oaks, Los Angeles Co., Calif.

May 2, 1946

Left home of Mr. + Mrs. Cyril Stebbins at about 7:30 a.m. Drove toward Newhall, and stopped at a place 1 1/2 mi. S. of Newhall, Los Angeles Co., Calif., where we looked for Ensatina in a narrow, N+S canyon, with Q. agrifolia the dominant tree. Dr. Stebbins and I turned over a plank about 15' long, and I found 1 small E. escholtzii under my end of the plank. I turned the specimen over to him, as he wished to keep it alive. Farther up the canyon I found a Batrachoseps attenuatus just under the oak leaf litter covering a large flat area between several oak trees. Mr. Stebbins preserved this specimen in formalin. We then drove up Mint Canyon toward Palmdale, stopping at one point adjacent to the "Sleepy Valley Motel", where there was a good stand of Q. agrifolia. Looked for Ensatina without success. Drove on, + turned off on Cal. 138 toward Big Lines Camp Ground. Reached Big Lines about 11:15 a.m., and drove up some of the adjacent canyons looking for possible Ensatina collecting sites. Worked over the leaf (Q. kelloggii) + pine needle litter adjacent to banks of melting.

J. Davis 4.
1946

Big Pines Recreational Area, Angeles
National Forest, Los Angeles Co., Calif.

May 2, 1946

snow, but no Eusattina were found.
Drove back to administration building
at Big Pines Camp Ground, and talked
to Fire Guard James Colwell. Dr. Stebbins
showed him live specimens of both
E. croceator & E. escholtzii, and asked
Colwell if he had run across either
or both during his year at Big
Pines. Colwell replied that he had
never seen croceator, but had run
across about 6 specimens of escholtzii
while rolling logs near Jackson
Lake, about 3 mi. W. of Big Pines.
We then drove about $\frac{1}{2}$ mile back
along the road toward Jackson
Lake, & stopped to collect at the foot of
a canyon $\frac{1}{2}$ mi. NW of the Headquarters
of Big Pines Camp. There were numerous
fallen logs lying in the Q. kelloggii - Pinus
ponderosa leaf and needle litter.
Stebbins & I started rolling logs, and
each of us found an E. escholtzii
almost simultaneously, his a sub-
adult, mine fully adult ♀. I turned
my specimen over to him. We then
drove to a camp-ground at the SE End
of Jackson Lake, Angeles Nat'l. For., Los Angeles

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1946

SE End of Jackson Lake, Angeles National
Forest, Los Angeles Co., Calif.

May 2, 1946

to., Calif., where we made camp and ate supper. Went for a 30 minute walk after supper, up a very dry canyon, which had evidently been brushed out, as the usual Leucanthus under cover was lacking. Too dry for Ensantina. Returned to camp. Elevation here 6050' according to altimeter. At about 8:30 p.m. we heard howls calling - a very low-pitched "hoot-hoot-hoot-hoot," with 1 or 2 second intervals. Possibly flammula-ted screech owls. As I write these notes at 9 p.m. they are still calling. Must be about a quarter of a mile away. Stebbins & I walked toward the owl to the west of camp, & Bob tried to call it in without success. However, from our closer position we could hear two other calls given by this owl, one a "hoot-hoot" with no interval between "hoots", and the other a "boodle-boof", exactly as Joe T. Marshall imitates the call of this owl.

May 3, 1946

Spent from 7:30 until 10 o'clock in a canyon north-west of camp, rolling rotten logs without finding Ensantina. We broke camp at about 11 o'clock & headed for Big Pines Camp. On the way stopped and Stebbins took 2 pictures in the canyon where we

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1946

SE End of Jackson Lake, Angeles National Forest,
Los Angeles Co., Calif.

May 3, 1946

had found 2 E. escholtzii on May 2. After Bob had taken the first picture, I rolled over the logs which he had photographed, and under one of them found an immature E. escholtzii, lying motionless in the moist wood debris beneath the log. Gave the specimen to Bob. Birds noted between Big Pine Camp & Jackson Lake: - Flammulated Screech Owl, Mountain Quail, Mountain Chickadee, Plain Titmouse, Robin, Western Bluebird, Oregon Junco, Black-headed Grosbeak, White-headed Woodpecker, California Woodpecker, White-breasted Nuthatch, Western Flycatcher, Ash-throated Flycatcher, Cassin Vireo, Steller Jay, and Band-tailed Pigeon. The most common birds in the area are Mountain Chickadees & California Woodpeckers. Some of the vegetation noted: - Q. kelloggii, Q. chrysolepis, P. lambertiana, P. ponderosa, A. concolor, Sabix sp., Alnus sp., Ceanothus sp.; most of the golden-cup oaks were on the south-facing canyon slopes. We left Big Pine Camp and drove to the small settlement of Tajon, where we had lunch. The road (Cal 2 ~~138~~) to Tajon falls rather abruptly to from 6000' to 4000'; and only a few miles from Big Pine the country is parched & desert-like. Within 5 miles of Big Pine Camp we noted Yucca brevifolia and Yucca whipplei, and the pines were very scattered and far apart. From

Big Pine Camp, Angeles National Forest, Los Angeles Co., Calif.
to Lake Arrowhead, San Bernardino Co., Calif.

May 3, 1946

Today we continued on to Lake Arrowhead, San Bernardino Co., Calif. via State Highway #2. This road saves about 20 miles over Highway 18 from San Bernardino, & is not a bad road. The first 7 or 8 miles are graded, the rest paved. On the way, we stopped at a canyon 6 mi. N. of Crestline, San Bernardino Co., Calif., and rolled more logs, without finding Ensatina. However, Bob took 1 small Crotalus viridens and a large Geophonus multi-carinatus. Stopped again about 3 mi. N. of Crestline, and hunted Ensatina unsuccessfully. Drove on to Lake Arrowhead, where we stopped for a few moments, then drove around to the N shore of the lake, where we camped at: - North Shore Public Camp Ground, Lake Arrowhead, San Bernardino Nat. L. For., San Bernardino Co., Calif. The country all the way from the canyon 6 mi. N. of Crestline to Lake Arrowhead seems quite a bit more lush & more heavily vegetated than the country around Big Pine Camp, because the Q. kelloggii in the San Bernardino mountains is in leaf, whereas it was merely budding in the San Gabriels. At about 6:45 p.m. while eating supper we heard a ~~Screech~~ ^{Horned} Owl calling. After ~~Bob~~ ^{Bob} supper Bob showed me a novel way to collect bats. He took his 8' steel fishing rod and waved it in the air, and the vibrations attracted the bats flying over camp. They hovered over the end of the rod, and he would try to hit them with the tip of the rod. I missed one on the wing, but that was as close as we came.

Davis
1946

8

North Shore Public Camp Ground, Lake Arrowhead,
San Bernardino Nat'l. For., San Bernardino Co., Calif.

May 3, 1946

Heard Spotted Owl call at about 8:45 p.m.
Still calling at 9:30 p.m. when first heard,
only three notes could be made out: -
who-who-who-who. Bob called it in
somewhat closer to camp, and 4 notes
could be made out: - who-who-who-who-
- who. The first note seemed lower
in pitch than the last three. The forest around
here are mostly yellow pine & black oak.

May 4, 1946.

Left this locality at 7 a.m. Some of the
birds noted here: - Horned Owl, Spotted
Owl, Western Bluebird, Robin, Mountain
Chickadee, Steller Jay, Pewee, California
Woodpecker, Cassin Vireo, Oregon Junco.
Drove to a canyon $\frac{1}{2}$ mi. west of Lake
Arrowhead and turned logs for Encarnia.
Bob found 1 E. escholtzii ^{found germanicus}. Then drove
to Big Bear Lake, where we picked
up gas & general supplies. Drove north
on Highway 18 to a point about $\frac{1}{2}$ mi. S.
of Lucerne. Here we turned almost due
west on a fairly rough dirt road and
drove to the Crystal Creek Ranch, which
is owned by a Mr. Priester. Our camp
is: - Foot of Crystal Creek, 5010', N. side San
Bernardino Mts., San Bernardino Co., Calif.
The country about camp is very arid and
desert-like. Plants include Yucca brevifolia,
Yerba Santa. On the way from High-

Davis 9
1946

Foot of Crystal Creek, 5010', N. side San Bernardino
Mts., San Bernardino Co., Calif.

May 4, 1946

way 18 to this locality, the terrain was even more typical desert, vegetation including Larrea divaricata, Cercus sp., and Cholla Cactus. The main purpose of our visit to this locality was to search for Eusatinia croceata, of which Edmund Jaeger had taken 1 specimen at Crystal Creek in October, 1927. Stebbins & I started up Canyon at about 1 P. M. The country changed almost as soon as we left the ranch area. Q. chrysolepis was abundant, and a few hundred feet up the canyon we ran into our first Incense Cedar in the canyon bottom. Crystal Creek is on the average about 4' wide & 8" deep & is an all-year stream. The water is clear & cold & contains some mineral ($CaCO_3$?) which forms a heavy deposit on the rocks in the stream bed. We turned over a few logs on the way up, but the ground beneath them was quite dry. However, the Incense Cedar grew more abundant, & the trees larger. At 5700', Bob found the first E. croceata beneath a cedar log, and within a few minutes he had found another, and I had found two, which I turned over to him. All of the

Davis 10
1946

Foot of Crystal Creek, 5010'; ~~to~~ N. side San
Bernardino Mts., San Bernardino Co., Calif.

May 4, 1946

Specimens were taken under Incense Cedar
logs within 4' of the stream, and the ground
beneath the logs was quite damp. About
500' further up canyon, we ran into another
group of Incense Cedars growing on a flat,
and each of us found another E. croceator
apiece. We climbed to 6700', above the cedars,
where the only trees were widely scattered P.
Chrysolepis, and the slopes were talus. On
the way down, we took one more juvenile
E. croceator. Bob turned the log and I
grabbed the salamander. The seven speci-
mens constitute a nice series, as they
include juvenals, sub-adults, + adults.
Returned to camp + ate supper. Took a
few (4 shots - ammunition is scarce!) shots
at bats at dusk, none of which connected.
The bats were few, and were coming in to
drink from a duck pond behind the ranch.
Heard poor-wills calling. Bob took 3 of
the ever-present Buff. boreas. And so to
bed.

May 5, 1946.

Left this locality at 7 a.m. Drove out to
highway 18 and turned toward Victor-
ville. Engine started acting balky +
heating up just as we got to Lucerne.
We found that the rubber hose connection

Davis 11
1946

Foot of Crystal Creek, 5000', N Side of San Bernardino
Mts., San Bernardino Co., Calif. to 2 mi. N.
Victorville, San 2900', San Bernardino Co., Calif.

May 5, 1946.

between the radiator + the engine had a large hole in it, + the radiator was nearly dry. Made minor repairs + proceeded to Victorville, where we bought + installed a new connection. Then drove toward Barstow collecting a few specimens on the road. Note: - all specimens collected today are in Stebbins' catalog + notes. Drove past Barstow toward Aggett on Highway 66, and stopped near some sand dunes: - 6.4 mi. SE Barstow, San Bernardino Co., Calif., where we hoped to find Ocellated Sand Lizards (Uma scoparia). Bob had a telescoping steel fishing rod with a small thread noose attached to the tip. As we worked through the dunes, whoever spotted a lizard would call over the other party. I would then circle around behind the lizard and slowly work it toward Bob, who noosed it when it had approached close enough. In this way we captured alive 1 adult and 2 immature U. scoparia, 1 ♂ + 1 ♀ Callisaurus draconoides, and 1 ♂ + 1 ♀ Uta graciosa. Drove back to Barstow and ate lunch. After lunch we looked at the E. croceator we had collected at Crystal Creek the previous day, + had kept alive.

Davis 12
1946

Barstow, San Bernardino Co., Calif. 2 mi.
N. Victorville, 2900', San Bernardino Co., Calif.

May 5, 1946

6 of the 7 specimens were dead or dying from the heat, in spite of the water-soaked excelsior we had packed around their jar. Bob took color notes on them, and pickled them. The seventh we put in a jar with some other Eusaudia from Fort Tejon to other localities. We then drove to the local infant & obtained some ice, which we packed around the Salamander jar. This held all the live specimens very well for the rest of the day. Then headed back toward Victorville, stopping 2.6 mi. N Victorville, San Bernardino Co., Calif., at a point some 300 yards from the east bank of the Mojave River. We walked to the river and took a dip, then back to the truck where we collected a ♂ U. stansburiana and a Crani-
dophorus tessellatus using the nose technique. Drove into Victorville for gas, then made camp 2 mi. N. Victorville, 2900', San Bernar-
dino Co., Calif., about 100 yards from the east bank of the Mojave River. After supper we collected a few ⁽⁴⁾ B. boreas and 10 B. cali-
formicus. 4 B. boreas + 7 B. californicus were taken within a radius of 5 yds. from a large Populus fremontii in the shade of

2 mi. N Victorville, 2900', San Bernardino Co., Calif.May 5, 1946

which we are camped. The other B. cali-
formius were taken at varying distances
from camp on the soft sandy flats adjacent
to the river. Bob took the truck out on the
road to Barstow looking for reptiles, as
the air temperature at 8:30 p. m. was $\pm 77^{\circ}$
F. He had no luck.

May 6, 1946.

After we packed the truck in a. m. went
a few hundred yards from camp into
some granitic outcroppings to hunt for
Chuckwallas. We saw none, although
many lizards were sunning themselves
on the rocks, including Uta stansbu-
riana, Sceloporus magister, Sceloporus
occidentalis, Tallisaurus draconoides,
and Unemidophorus tesselatus. Noted
white-throated Swifts flying over-
head. Drove on to a point $\frac{1}{2}$ m. S.E. Vic-
torville, 2950', San Bernardino Co., Calif., where
Bob spotted a Sauromalus obesus lying
on top of a large rock by the side of the high-
way. When Bob went after him, the chuck
scrambled into a crevice in the rock,
but only a few inches down. I climbed
up on the rock, and we placed flat
rocks over most of the crevice wherein
the chuck lay, leaving only a narrow

Handwritten text in Arabic script, likely a preface or introduction, mentioning the author's name and the purpose of the work.

Handwritten title or chapter heading in Arabic script.

Main body of handwritten text in Arabic script, consisting of several paragraphs of prose.

1/2 mi. S.E. Victorville, 2950', San Bernardino Co., Calif.

May 6, 1946

row opening at either end of the crevice. Bob then prodded the chuck with his fishing rod, until the lizard scrambled out through my end of the crevice, and I was able to secure him. It was a large male. The femoral pores had large pieces of a hard, yellowish, waxy substance extruded from them. The lizard made no attempt to bite, although we were careful in handling it. On the rock adjacent to the crevice where we caught it, were several of its scats, which are about the same size as those of a ground squirrel, and composed entirely of vegetable matter. Surrounding the scats, and running down from them, were large areas where apparently some liquid had dried. It is possible that this was wine, and that Sauromalus utilizes a considerable volume of liquid, as opposed to other lizards. This is in line with its vegetable diet, which would give it more liquid than ~~most~~ carnivorous lizards would derive from their diet. After

Lavis 15
946

1/2 mi. S.E. Victorville, 2950', San Bernardino Co., Calif.

May 6, 1946.

catching the chuckwalla, we went into Victorville, picked up groceries + water, fresh ice for the Ensatina and Bufo californicus, + had the Coleman lantern repaired. We then went to a barber shop, where Bob had his hair cut, + I lost a 5 days growth of whiskers, which had an interesting microfauna, but which were most uncomfortable. Following this, we left Victorville south on Hwy 66, and 3 miles out of town turned off on a road running WNW (unnumbered) to Little Rock. We turned off this road at Llano, 11 mi. ESE of Little Rock and took a dirt road almost due S to Big Rock Creek, in the Angeles Nat'l Forest, Los Angeles Co., Calif. A short way out of Llano we found a 3' specimen of Crotalus scutulatus D.O.R., but it was too badly mutilated to save. We drove to Big Rock Camp ground, which lies ~~at the foot of~~ on Big Rock Creek. Bob + I hunted up the canyon all afternoon for Ensatina, but found none. The

Handwritten text in Arabic script, likely a manuscript or letter. The text is written in a cursive style and is mostly illegible due to blurring. There are several lines of text, with some words appearing to be underlined or highlighted in yellow. The text appears to be a formal document or a letter, possibly containing a date or a signature at the bottom.

Davis 16
1946

Big Rock Creek, Angeles Nat'l For., Los Angeles Co., Calif.

May 6, 1946

Creek had plenty of water in it, but the Canyon walls are far too steep, about a 45° slope, and the slopes themselves are covered with a finely divided, treacherous sliding talus. There is no under-
cover, and the trees, mostly Q. chrysolepis and P. ponderosa, are scattered. Consequently these slopes are far too dry for Ensatinia, and the dirt beneath fallen logs is rather dry. We drove to the Canyon of the South Fork of Big Rock Creek, but could see from the road that the same conditions prevailed. All of the canyons in this area seem about the same - the walls being sparsely vegetated, & so steep that run-off is too rapid for any extensive moisture retention. Drove on to Valyermo, which consists of 1 gasoline station & store, and on out to Highway 138, and established camp in the creosote bush hummocks at about 6:30. Tomorrow we plan to drive to Agua & thence to Crysal Lake, our last chance for Ensatinia Crocker in the San Gabriel Mts.

Highway 138, 2 mi. SE. Littlerock, San Bernardino Co., Calif.

May 7, 1946

Hunted for Dipsosaurus in the creosote brush hummocks for about an hour, but the only lizards we saw were Uta and Uromastyx. It was apparently too early for the dips. Left camp about 8:00 a.m.

Drove on Cal. Hwy 138 through Littlerock and on to a point where 138 intersects Hwy 2. Turned S on Hwy 2 and drove to Vincent where we took the Angeles Crest Drive SW.

Stopped at the foot of a canyon 25 mi. NE of Junction of Highways 2 + 118, Los Angeles Co., Calif.

where we hunted for Eumeces for about an hour + a half. I found 2 E. eschscholtzii (see species account). Then drove on to

Pasadena + on to Ayusa where we ate lunch.

After lunch we drove to Crystal Lake, due N of Ayusa about 25 mi. The road goes past San Gabriel Dam + Reservoir No. 1, to Crystal Lake, at an elevation of 5900±, in the yellow pine - Q. chrysolepis - Incense cedar belt. We

obtained a permit for our Coleman stove, at the ranger station, and had a lengthy conversation with the ranger, Mr. Jewis, and several of his assistants. They

Davis 18
1946

Crystal Lake, 5900', Los Angeles Co., Calif.

May 7, 1946

were familiar with the "red salamander" (presumably E. eschscholtzii) but had never seen the yellow & black form (E. croceator). Mr. Lewis is a well-informed and intelligent ranger, and could be very helpful to collectors in this area. He was quite concerned about our taking other animals than salamanders, and emphasized that we were in a state game refuge and recreational area. After we left the ranger station we drove about a mile to Crystal Lake proper, which is small, with very bare, unvegetated shores. Noted several fishermen on the lake. We then drove back down the way we had come to Cedar Canyon, and worked there until about 5 p.m. without any luck. Then made camp in a public camp ground directly behind the ranger station at Crystal Lake.

May 8, 1946

Broke camp & then collected without success in Soldier Canyon, adjacent to the camp ground. Stebbins saw a spotted owl in a canyon live oak, about 20' over

Crystal Lake, 5900', Los Angeles Co., Calif.

May 8, 1946

his head. At about 9 a.m. we left the Crystal Lake Area and drove down toward Ayusa, stopping to collect in a canyon about 2 mi. S. W. Crystal Lake. We found no Eusattina, but Bob found a Lampro-
peltis multivincta and 2 R. l. muscosa, and I collected a D. attenuatus (see species account). Then drove down to Ayusa and on to the home of Mrs. H. Cooper, at 4618 Saloma Ave., Van Nuys, Calif. where we spent the rest of the day.

May 9, 1946

Out to U. C. L. A. Campus in a.m. + early p.m. where I met Dr. Cowles, Dr. Tazear, and Dr. Ball of U. C. L. A. Zoology Dept. Dr. Joyce Miller and Mr. A. J. van Rossem were out on a collecting trip, + we did not see them.

May 10, 1946

Mr. van Rossem had returned from his trip, and I spent part of the a.m. and most of the p.m. looking at the Pipilo fuscus material in the Dickey

Davis 20
1946

4618 Saloma Ave., Van Nuys, Los Angeles Co., Calif.

May 10, 1946

U.C.L.A. collections. Mr. Van Rossem is one of the most affable and courteous men I have ever met, and showed me every consideration. Returned to 4618 Saloma Ave. c. 5:00 p.m. & spent rest of day there.

May 11, 1946

Packed truck and left at about 9 a.m. Picked up groceries in San Fernando and then drove via the Ridge Route (Hwy 99) to a point 1 mi. SW of Lebec, where we turned off to the W on an unnumbered road leading through Fraser Park & past Mount Pinas to a junction with Hwy 399. The country we passed through was extremely arid piñon-juniper country and wholly unsuitable for Eusatria collecting. Turned NE on 399, and stopped for lunch on E. Side of U.S. 399, 4.7 mi. S. of San Luis Obispo Co. line, Santa Barbara Co., Calif. After lunch we looked for Xanthusia vigilis (?) in a good-sized patch of yucca whipplei about a hundred yards off the road.

Davis 21
1946

E. Side of U.S. 399, 4.7 mi. S. of San Luis
Obispo Co. Line, Santa Barbara Co., Calif.

May 11, 1946

We found them quite common beneath
dead yucca plants, and between us
collected a series of 15 in little better
than an hour. These specimens are
all in catalog of Robert C. Stebbins.
This station extends the range of X.
virgatus 30 \pm mi. to the west, the
westernmost point to this date be-
ing Fraser Park, Kern Co., Calif. We
turned off 399, 5 mi. E of its junction
with Hwy 166, driving N.W. on a gra-
ded road 45 mi. to Simmler. Went
fast Soda Lake. Country quite bar-
ren, & only birds noted were hor-
ned larks and ravens. Then drove
east on Hwy 178 to Santa Margarita,
San Luis Obispo Co., Calif.; stopping
once in a Blue Oak-Sigger Pine
canyon, where we hunted Eusadia
& found none. Then drove about 8
mi. N on Hwy 101 toward Atascadero,
San Luis Obispo Co., Calif.,
at which point we turned off
the main road & camped for the
night.

Lavis
1946

22.

1 mi. S. Atascadero, San Bernardino Co., Calif.

May 12, 1946

Broke camp + packed the truck. While Bob was writing a few notes prior to leaving this locality, I turned over a few loose boards lying under the oaks nearby + found a Gerrhonotus multi-carinatus which I gave to Bob. We then drove to Atascadero, and then turned W on U.S. 466 to Morro Bay. Stopped and looked for Eusautia eschscholtzii in a canyon 12 mi. ENE of junction of Highways 466 and 1, 1150, San Luis Obispo Co., Calif. I found two small specimens which I gave to Bob. These are evidently intergrades between the race north of the Salinas River and that found on the coast from Los Angeles South. We drove on to a locality: - 5.6 mi. ENE of junction of Highways 466 and 1, San Luis Obispo Co., Calif. where we noted a rather dense stand of yucca whipplei about 100' above the road on a rather steep S facing slope. We climbed to the yucca + uprooted numerous dead plants looking for Xan-
lusia, but found none. Stebbins said that he had never taken this lizard on a slope but always on a level site?

5.6 mi. ENE of Junction of Highways 466 and 1,
San Luis Obispo Co., Calif.

May 12, 1946

We left this locality and continued west till 466 joined Cal. no. 1, and at this point drove about 200 yards to the sand dunes on the beach almost opposite Morro Rock. There was a pretty dense growth of Lupinus sp. on the sand dunes, and we searched about the lupin bushes for Annella, but found none. I saw and heard a song sparrow singing from a bush (sp?) and was much impressed by the opening two notes of the song - a very loud, nasal, metallic (brassy!!) "breck-breck" - very much unlike any song sparrow I had ever heard before. We drove NNW on Highway 1, stopping a couple of times to hunt Eusatina in well-vegetated canyons, but not finding any. At a point 34 mi. NNW of San Simeon, in Monterey Co., Calif., about 25 yds south of the Kirk Creek Bridge, we turned ESE on a road leading to Jolon, Monterey Co., Calif. This road crosses over the Santa Lucia Mts. (?) and is breath-taking for sharp curves and precipitous & dizzying drop-offs. We stopped at several localities on both sides

Handwritten text in a cursive script, likely a letter or a page from a manuscript. The text is written in a dark ink on a light-colored paper. The handwriting is fluid and continuous, with many loops and flourishes. The text is arranged in several lines, filling most of the page. The overall appearance is that of a historical document or a personal correspondence.

En route to King City, Monterey Co., Calif.

May 12, 1946

of the crest and looked for Ensotria. None were found, although many favorable-appearing sites were discovered. Drove through the Los Padres National Forest, along Rancho Creek, and then out to the King City road. The country outside the national forest is very dry grassland, with scattered, large Blue Oaks. Many mourning doves & Western Bluebirds were noted, as well as California Woodpeckers, Brewer & Redwing Blackbirds, Crows, Valley Quail, and Turkey Vultures. Numerous Magpies were also seen. Drove to King City, where we obtained gasoline, and then N.W. on Highway 25 to the: Pinacles National Monument.

San Benito Co., Calif. Arriving around 6:20 p.m. our primary motive for coming to this locality is to hunt for Xantusia. There is one specimen in the MVZ Collection taken by Cain (Brighton?) in 1935(?), and this specimen is far darker than vigilis according to Stebbins. We were on the lookout for Yucca whipplei all the way from King City.

Davis 25
1946

Pinnacles National Monument, San Benito Co.,
Calif.

May 12, 1946

to this locality, but saw none until we reached the gate leading to the National Monument. Here we noticed 5 or 6 living plants, and 3 or 4 dead ones. We drove to the ranger station a mile or so beyond the gate, but the ranger was not in. However, we found a man in a store next to the ranger station, and talked to him at some length. He told us that he had been all over the Pinnacles, and had seen very little yucca, and that any yucca seen in the confines of the Monument was probably planted, as it had been introduced here some years ago. The yucca we noted at the park entrance was, he said, introduced. However, he told us of extensive native stands of yucca along the San Benito River to the SSE. Tomorrow we shall inquire further, and see the ranger if he is in, and if the storekeeper's story is corroborated, we shall probably head SSE for the San Benito River. We made camp in a public camp ground in the monument. After dark we heard Hyla regilla + poorwills, and bats twittering overhead.

Davis 26
1946

Pinacles National Monument, San Benito Co.,
Calif. to Canyon, Contra Costa Co., Calif.

May 13, 1946

Broke camp and left the Nat. Mon. at about 7:00 a.m. Drove to town of Pinacles, 1 mi. to the NW, then to the town of San Benito, 4 mi. SE of Pinacles. Here we took a dirt road running SE to Hernandez, paralleling the San Benito River, which the road crossed every few miles. This road is NE of highway 25, and is shown as an improved road for 10 mi. and a graded road for 13 mi. to Hernandez. We stopped a few times to ask if yucca plants grew in this area, but were told that they were found mostly on rocky points in the hills. We saw a few scattered clumps in such places as we drove along. We went through Hernandez without even seeing signs of a town, and drove to a point 8 mi. SE of Hernandez, where the road maps show an improved road running to Idria, to the north. There is a general store at this turn-off, and the

Davis 26
1946

Pinnacles National Monument, San Benito Co.,
Calif. to Canyon, Contra Costa Co., Calif.

May 13, 1946

Broke camp and left the Nat. Mon. at about 7:00 a.m. Drove to town of Pinnacles, 1 mi. to the NW, then to the town of San Benito, 4 mi. SE of Pinnacles. Here we took a dirt road running SE to Hernandez, paralleling the San Benito River, which the road crossed every few miles. This road is NE of highway 25, and is shown as an improved road for 10 mi. and a graded road for 13 mi. to Hernandez. We stopped a few times to ask if yucca plants grew in this area, but were told that they were found mostly on rocky points in the hills. We saw a few scattered clumps in such places as we drove along. We went through Hernandez without even seeing signs of a town, and drove to a point 8 mi. SE of Hernandez, where the road maps show an improved road running to Idria, to the north. There is a general store at this turn-off, and the

Davis 27
946

Pinacles National Monument, San Benito Co.
Calif. to Canyon, Contra Costa Co., Calif.

May 13, 1946.

woman there told us that the road was impassable. Although shown on the road maps as an improved road, what we could see of it resembled two wagon tracks in the dirt. The woman then directed us to another cut-off to Idria Mines (town of Idria of the road maps), about 7 mi. back on the road to Hernandez. This cut-off we found, after numerous inquiries. It crosses a ford ~~to~~ over the San Benito River and goes through Clear Creek Canyon. This is the most dangerous road I have ever seen, being a one-lane dirt road, banked away from the canyon wall, and with numerous erosion gullets along the road edge. In many places one could look from the car window directly into the stream bed two or three hundred feet below. There are numerous laterals from the main road, but by sticking to the main road we traversed

Davis 28
1946

Pinnacles National Monument, San Benito Co.,
Calif. to Canyon, Contra Costa Co., Calif.
May 13, 1946

The mountain chain and came to a road juncture, one fork leading to San Carlos, the other to Idria Mines. The fork to Idria Mines is the correct road to take. There are numerous mercury mines in this area, of which Idria Mines are apparently the largest & best known. Eventually we came to the mine headquarters, which includes a church, and gasoline & grocery store. All along the road we had noted small clumps of yucca whipplei, but they were on very steep slopes, and Xanthusia sticks to flat areas, so we did not attempt any collecting. At Idria Mines the dirt road joined the paved road leading NW to Panoche. We drove out this road, stopping at one place where the yucca was growing at the base of a rather steep hill. We tore apart numerous dead plants, but found no Xanthusia. The country here is almost reminiscent of the Mojave Desert, physiographically if not botanically. The mountain chains are steep and

Davis 29
946

Pinacles National Monument, San Benito Co.,
Calif. to Canyon, Contra Costa Co., Calif.

May 13, 1946

jagged, and the flats are sandy, or else covered in places with a short, burnt grass cover. Vegetation is very sparse. Seeing this country, I understood how forms like Sceloporus magister and Xantusia (vigilis?) had been taken this far north. It is possible that other desert-dwelling forms may be turned up in this area. From Panoche we went over Panoche Pass and thence to Canyon, Contra Costa Co., Calif. via Hollister, Gilroy, San Jose, Hayward and Oakland. At Canyon we stayed overnight at the home of Dr. Robert Stebbins, and will return to MU 2 tomorrow.

Species Accounts

Ensatina escholtzii

25 mi. NE of Junction of Highways 2 and 118,
Los Angeles Co., Calif.

May 7, 1946

Collected 2 *Ensatina escholtzii* about 50' above a stream flowing at the bottom of a rather open canyon. These specimens are R. W. Stebbins Orig. Nos. 834 + 835. The first was a first-year individual and was taken under a large piece of yellow pine bark about 8' from a fallen yellow pine nearly 50' long. The canyon wall sloped about 30° at this point. The substrate upon which the salamander was lying was rather dry earth and fine-needle mold. The second specimen was taken from under an oak log about 200 yards upstream and on the opposite canyon wall from the first specimen. The substrate was fairly moist earth and oak-leaf mold. The specimen was regenerating its tail. Vegetation in the canyon included *Quercus*, dar, yellow pine, *Acer macrophyllum*, canyon live oak, *Ceanothus* sp., and *Alnus* sp.

Lairs
946

Hyla regilla

1/2 mi. W. of old Fort Tejon, 3500', Kern Co., Calif.

May 1, 1946

8 or 10 Hyla were flushed from the grass bordering a narrow (3') stream at the bottom of a NE-SW canyon, at a point W of old Ft. Tejon. at the foot of the canyon, and up the grapevine toward the Fort, there are extensive marshes, and many hundreds of Hyla were heard in voice.

Davis
946

Ummees gilberti
1/2 mi. w. of Old Fort Tejon, 3500', Kern Co., Calif.

May 1, 1946

2 adults were found and collected beneath rocks lying near a stream in the floor of an N. east-Swest canyon about 1/2 mi. w. of Old Fort Tejon. The first specimen, no. 1687, was with a Sceloporus. When the rock was overturned, the lizards ran in opposite directions. The Ummees ran about 30' down stream, and disappeared beneath another rock. This was overturned gently, & the lizard collected, the tail being broken off in the process. Specimen vigorously attempted to escape, and bit my finger through the cloth of the reptile bag after I had placed it therein. The second specimen (1686) was by itself under a rock, and remained in situ, where it was collected. It did not struggle nor attempt to bite.

Davis
1946

Batrachoseps attenuatus

1/2 mi. W. of Old Fort Tejon, 3500'; Kern Co., Calif.

May 1, 1946

Collected a very small immature B. attenuatus from beneath a fallen oak log lying about 2' from the bank of a small stream in an East-Swest canyon west of Old Fort Tejon. Specimen was found lying on top of ^{moist} rotted wood debris under one end of the log. It was so small that it would have escaped attention had it not been wriggling actively. No others were found. This specimen extends the range of B. attenuatus about 70± miles south.

1/4 mi. NW of Falling Springs Resort, about 2 mi. S. W. of Crystal Lake, Los Angeles Co., Calif.

May 8, 1946.

Collected one specimen under a fallen log about 2 feet from the edge of a small stream at the bottom of a very steep-walled, well shaded canyon. The dirt in which the salamander was found was almost muddy it was so wet. Vegetation noted in the canyon included yellow pine, canyon live oak, and incense cedar. Specimen was fully adult, and wriggled violently when picked up. The salamander lay on the surface of the earth under the log, and numerous angle-worms were noticed near it. Specimen is R. W. Stebbins Orig. No. 837.

Likely
1st discovery
of
Batrachoseps
gabriel
EBW
Jan 8, 1979

Poss.
B. highvatus

Davis, J.

May 24- June 15, 1946

Tehama, Trinity, and Humboldt
counties, California

Davis, J.

May 24 - June 15, 1946

Tehama, Trinity, and Humboldt
counties, California

Contents

Catalog.

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Species accounts

1877 May 18-25-70

Catalog nos. 1688-1822

2 mi. SE Beegun, 1650 ft., Tehama Co., Calif.

May 24, 1946

1688

Sceloporus occidentalis

May 25, 1946

1689

Sceloporus occidentalis

1690

♀ Dipodomys heermanni 34.4 gms. 244-145-42-12

1691

♂ Carpodacus mexicanus 19.7 gms Testis 7 mm

1692

♂ Aphelocoma californica 96.4 gms Testis 4 mm

1693

♂ Dendroica aestiva 10.3 gms. Testis 4 mm

1 1/2 mi. S Beegun, 1750± ft., Tehama Co., Calif.

May 26, 1946

1694

♀ Microtus californicus 45.0 gms. 161-42-22-15

1695

♂ " " 53.8 gms. 168-44-21-16

~~1696~~

~~♂ Peromyscus truei 33.7 gms. 200-101-23-20~~

1697

♀ " " 26.6 gms. 164-(70)-21-19

1698

♂ " " 30.0 gms. 195-103-23-26

1699

♂ " " 28.2 gms. 191-98-25-21

1700

♀ " " 29.8 gms. 187-88-23-22

May 27

2 mi. SE Beegun, 1650', Tehama Co., Calif.

1701

♂ Sitta carolinensis Testis 3 mm. 15.5 gms.

1 1/2 mi. S Beegun, 1750±', Tehama Co., Calif.

May 27, 1946

1702

♂ Reithrodontomys megalotis 149-75-17-14 13.1 gms.

1703

♂ " " 149-76-18-15 12.7 gms.

1704

♀ Peromyscus truei 3 emb. 202-102-23-25 29.7 gms.

1705

♂ " " 162-(69)-23-25 26.7 gms.

1706

♂ " " 199-106-21-20 32.1 gms.

Davis
1946

1 1/2 mi. S. Beegun, 1750±, Tehama Co., Calif.

May 27, 1946

- 1707 ♂ Aphelocoma californica Testis 6mm. 89.1 gms.
1708 ♂ Pipilo maculatus 14mm. 42.3 gms

May 28, 1946

- 1709 ♀^{emb} Neotoma fuscipes 376-181-38-31 217.9 gms.
1710 ♂ Peromyscus truei 125-③1-22-21 28.9 gms.
1711 ♀^{emb} Peromyscus maniculatus 154-67-21-19 21.7 gms.
1712 ♂^{emb} " 173-80-20-16 21.6 gms.
1713 ♀^{emb} Reithrodontomys megalotis 155-77-18-15 15.5 gms.

White Rock Ranger Station, 4800 ft, Trinity Co., Calif.

May 29, 1946

- 1714 ♀^{no} Peromyscus maniculatus 171-78-21-17 23.2 gms
1715 ♂ " 157-67-21-16 17.9 gms.
1716 ♂ " 165-78-20-17 18.8 gms.
1717 ♂ Cyanocitta stelleri Testis 8mm. 109.6 gms
1718 ♀ Dendroica occidentalis 9.6 gms.

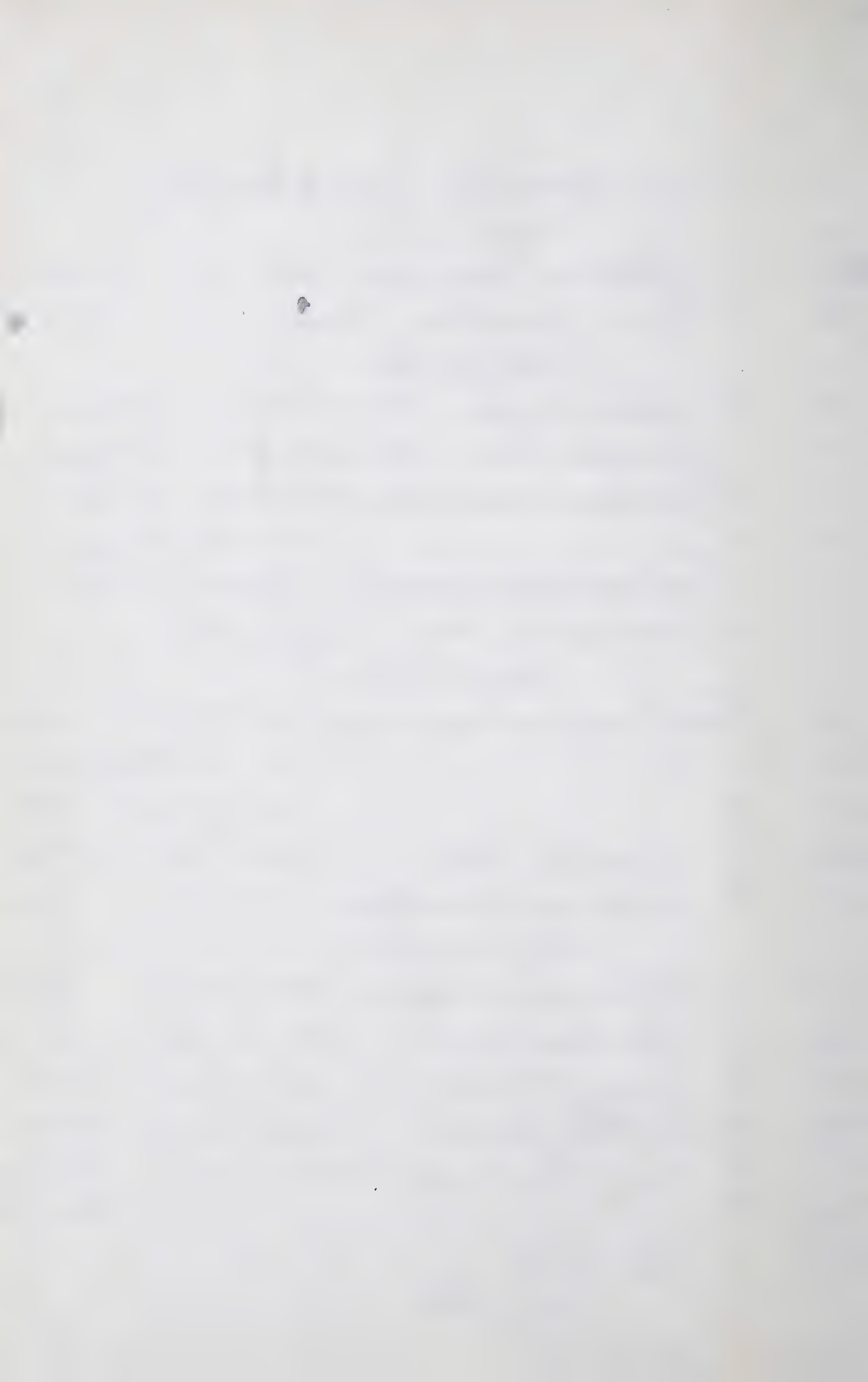
May 30, 1946

- 1719 ♂ Clethrionomys mayanus 139-32-18-12 26.2 gms
1720 ♂ Glaucidium gnoma Testis 6mm. 62.1 gms
1721 ♂ Junco oreganus Testis 8mm. 17.9 gms
1722 ♂ ~~Passer~~ gambeli Testis 7mm. 11.6 gms
1723 ♂ Passerella iliaca Testis 9mm. 34.1 gms
1724 ♀ " " 44.3 gms

1725 Hyla regilla

May 31, 1946

- 1726 Hyla regilla
1727 Gerrhonotus



White Rock Langer Station, 4800 ft, Trinity Co., Calif.
May 31, 1946

1728	♂	<u>Microtus californicus</u>	192-44-22-15	76.8 gms
1729	♂	<u>Passerella iliaca</u>	Testis 9 mm.	30.2 gms
1730	♂	"	Testis 11 mm.	36.9 gms
1731	♂	"	Testis 8 mm	31.7 gms
1732	♂	<u>Spizella pinus</u>	Testis 6 mm.	11.7 gms.
1733	♂	<u>Tarus gambeli</u>	Testis 7 mm.	10.9 gms.
1734	♀	<u>Ondroica auduboni</u>		11.9 gms.

June 1, 1946

1735
1736
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1750

Triturus

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"
"
"
"
"
"

1751
1752

Thamnophis ordinoides 512 mm + (95) mm
Eusattina

White Oak Ranger Station, 4800 ft, Trinity Co., Calif.

June 1, 1946

1753 Ensatina

1754 Ensatina

June 2, 1946

1755 Ensatina

1756 Triturus

1757 Gerrhonotus

June 3, 1946

1758 ♀^{no} Emb Eutamias townsendii 226-(85)-35-23 97.8 gms.
2 mi. W Hyampom, 1200 ft, Trinity Co., Calif.

June 4, 1946

1759 ♂ Microtus californicus 139-32-20-14 31.1 gms.

1760 ♂ Spizella passerina Testis 8 mm. 12.6 gms.

1761 ♂ Passerina amoena Testis 8 mm. 13.6 gms.

~~1762 Dendroica nigrescens 7.8 gms.~~

1762 ♂ Vireo gilvus Testis 8 mm. 10.3 gms.

1763 ♀ Vireo solitarius 16.5 gms.

1764 ♂ Vireo huttoni Testis 5 mm. 10.4 gms.

1765 Thamnophis ordinoides 403 mm × 128 mm

1766 Eumeces skiltonianus

1767 Salpator occidentalis

June 5, 1946

1768 ♂ Peromyscus truei 193-98-25-24 25.6 gms.

1769 ♂ " " 187-91-23-24 22.9 gms.

1770 ♂ Melospiza melodia Testis 9 mm. 21.1 gms.

1771 ♂ Pyilo maculatus Testis 12 mm. 39.9 gms.

1772 ♂ Selasphorus alerii Testis 2 mm. 2.9 gms.

K. Davis
1946

2 mi. W. Hyampom, 1200 ft, Trinity Co., Calif.

June 5, 1946

1773 ♂ Carpodacus purpureus Testis 8mm 25.3 gms
1774 ♂ " " Testis 9mm 21.6 gms

~~177~~

June 6, 1946

1775 ♂ Peromyscus truei 172-78-25-25 19.0 gms.
1776 ♂ Microtus californicus 162-43-23-15 40.8 gms.
1777 ♀ 2 Emb. " 172-41-21-16 66.3 gms.
1778 ♂ " " 184-50-23-15 58.4 gms.
1779 ♀ no emb " 171-46-20-14 44.3 gms.

~~June 7, 1946~~

1780 ♂ Melospiza melodia Testis 7mm. 21.9 gms.
1781 ♀ " " 23.6 gms.
1782 ♂ Oryzates fubescens Testis 3mm. 26.8 gms.
1783 ♀ " " 28.1 gms.
1784 Thamnophilis 483mm. + 91mm.

June 7, 1946

1785 ♂ Peromyscus truei 192-90-23-25 24.1 gms.
1786 ♀ Dendroica aestiva 8.9 gms.
1787 Triturus torosus
1788 ♂ Melospiza melodia Testis 8mm. 18.2 gms.
1789 ♂ Troglodytes aedon Testis 7mm. 8.6 gms.
1790 ♀ " " 8.9 gms.
1791 Sceloporus occidentalis
1792 ♂ Icteria virens Testis 13mm. 23.8 gms.
1793 ♀ Pipilo fuscus (coll. A. H. Miller) 51.9 gms.

June 8, 1946

1794 ♀ Dendroica nigrescens 6.8 gms.

2 mi. W. Hyampom, 1200 ft, Trinity Co., Calif.

June 8, 1946.

1795	♀ <u>Dryobates pubescens</u>	27.1 gms.
1796	♂ <u>Pipilo maculatus</u> Testis 12 mm.	39.7 gms.
1797	♀ <u>Sitta carolinensis</u>	16.7 gms
1798	♀ <u>Mniotilta cinerea</u> Brood patch	28.3 gms.
1799	♀ <u>Poliophtila coerules</u> Brood patch	5.5 gms
1800	♀ <u>Alpheloma californica</u> Brood patch	84.9 gms.

Big Creek, 4 mi. N. and 2 mi. E of Hayfork, 2800 ft, Trinity Co., Calif.

June 9, 1946

1801	<u>Ensatina</u>
1802	"
1803	"
1804	"
1805	"
1806	<u>Gerrhonotus</u>
1807	"

Hayfork Baldy, 5500 ft, Trinity Co., Calif.

June 9, 1946

1808	♂ <u>Passerella iliaca</u> (coll. by A. H. Miller) Testis 10 mm.	33.3 gms.
1809	♀ " (coll. by A. H. Miller) Brood patch	39.9 gms.
1810	♀ " (coll. by A. H. Miller) Brood patch	35.1 gms

2 mi. W of Elk Grove, at sea level, Humboldt Co., Calif.

June 11, 1946

1811	<u>Batrachoseps attenuatus</u>
------	--------------------------------

June 12, 1946

1812	♂ <u>Sorex pacificus</u> 142-59-17-10	17.9 gms
1813	♂ " 146-59-17-10	16.4 gms

Davis
1946

2 mi. W. of Elk Grove, at sea level, Humboldt Co., Calif.

June 12, 1946

- 1814 ~~♂~~ Sorex pacificus 152-67-18-12 18.9 gms.
1815 ♂ Microtus oregoni 131-35-16-10 25.4 gms.
1816 ♂ Melospiza melodia Testis 11 mm.

June 13, 1946

- 1817 ♀ Sorex toro-bridgii — 55-13-9 7.3 gms.
1818 ♂ Sorex pacificus 155-65-17-10 15.9 gms

June 14, 1946

- 1819 ♂ Zapus trinotatus 236-143-32-15 23.8 gms
1820 ♂ Zonotrichia leucophrys Testis 8 mm. 25.6 gms
1821 ♀^{no} emb. Myotis 87-34-8-15 5.5 gms.

June 15, 1946

- 1822 ♀⁴ emb. Microtus oregoni 130-35-16-9 20.9 gms

Journal

Berkeley, Alameda Co., Calif. to 2 mi. SE Beegun, 1650',
 Tehama Co., Calif.

May 24, 1946

Left Berkeley at 7 a.m. in MV2 Dodge Truck,
 Ward Russell driving + Dr. A.H. Miller + I as
 passengers. We drove North on U.S. 99W to Red
 Bluff, where we stopped to buy groceries. Then
 drove WNW from Red Bluff on Highway (36).
 The country along this road is park-like
Blue Oak - Digger Pine, very dry, with
 short, dry grass undercover and little
 or no understory vegetation. We
 made camp at a point: - 2 mi. SE Beegun,
1650', Tehama Co., Calif. We are camped

by a small creek at the base of a range of
 hills immediately to the NE. The slopes of
 these hills are covered with grass + scattered,
 stunted oaks + digger pines, or, in many
 places, especially toward the crest of the
 range, they are covered with a rather heavy
 growth of Adenostoma. Arctostaphylos is
 scattered over the hills sparingly, regard-
 less of the dominant type of vegetation.
 To the NW, and distant about 1/4 mile, is
 another range of hills, similarly vegetated,
 save that in some places along the crest of

Davis 31
1946

2 mi. SE Beegun, 1650 ft., Tehama Co., Calif.

May 24, 1946

The range there are heavy stands of rather large oaks and pines. At about 4 p. m., after camp had been made, I set 40 traps, all in the Adenostoma towards the top of a hill immediately NE of camp. Saw very little sign, there being a few old burrows (Perognathus?) and some Dipodomys burrows that showed some signs of recent use. Most of the traps were set at the bases of Adenostoma shrubs. Came back to camp, and then followed the creek a few hundred yards north of camp, turning rocks as I went. Found one Dipodomys. After supper, Mr. Miller & Ward went night hunting. I walked down the road which lies west of camp, and heard both horned and screech owls. Saw two large bats (not Myotis) fly over about dusk, but they did not stay in proximity long enough for a shot. Heard a coyote close by just as I returned to camp around 9 p. m.

May 25, 1946

Picked up my trap line. Only 4 catches: 3 Peromyscus & 1 Dipodomys. Spent several hours hunting birds and looking for a site for a trap line. Took only three birds.

Davis
1946

2 mi. SE Beegun, 1650', Tehama Co., Calif.

May 25, 1946

yellow warbler, California jay, and linnet.
all ♂'s. Investigated a place Dr. Miller men-
tioned as being a possible trap line ~~right~~ side.
This lies at the head of a stream about 1/4 mi.
North and 1 mile West of camp, in the range
of hills NW of our locality. At the head of the
stream is a rather heavy woods of Digger
Pine, Blue oak, and Black oak. The stream
originates from an extensive area of sejages
and springs, overgrown with sedges, and
strewn with rocks. Below the sejage area the
creek takes definite form, and flows a narrow
rather steep, + very rocky course, running
East until it crosses the road to Beegun.
The creek banks are grown to Blue oak and
Manzanita, with a heavy undercover,
consisting mostly of Pison oak, with
scattered Salvia. Behind the rather rocky
banks of the creek, on either side, are extensive
areas of Adenostoma. Heard numerous
Mountain Quail on the hillside. ^{heard or saw} Also Calif
Thrushers, Thickers, Cowbirds, Yel-
low Warblers, Bluebirds, Meadowlark,
California Woodpeckers, Slender-billed Vireo -
catchers, Linnetts, California + Steller Jays,
Olive-sided + Ash-chroat Flycatchers,
California Quail, Saw Red-Tailed Hawk +

2 mi. SE Beegun, 1650', Tehama Co., Calif.

May 25, 1946

Turkey Vultures, Hummingbird (sp.), Mourning Dove, Brown Spotted Towhees, Wren-tits, Bush-tits, Robins, Bullock Orioles, Willow Goldfinches (?), Pileolated Warbler (heard only), Lazuli Bunting. Heard a Gray Squirrel and saw at least 5 mounds of cone-eating things at the bases of ligger pines. Most of the birds here are singing. Returned to camp for lunch. It started to rain c. 11:5 a.m. After lunch, skinned and then set out a line of 50 traps up the canyon above described, from a point 50 yards above the road to a point about 100 yds. below the seepage area which is the source of the stream. Started drizzling c. 5 p.m. and turned to heavy rain c. 6 p.m.

May 26, 1946

Ran traps c. 7 a.m. 3 Microtus californicus (one with broken skull discarded), one Peromyscus maniculatus, and 8 P. truei (3 immatures and 1 adult with broken skull discarded). Although it rained intermittently all night, and very heavily c. 4 a.m., only about 25 of my 80 traps had sprung. After picking up my catch, I went to the head of the canyon and into the Black Oak woods, and turned logs & shovelled through the thick oak-leaf mold in the hope of turning up an Arsatina. The ground beneath logs & leaf-mold was far too dry, and the rains of the past day and a half had not dampened the ground appreciably. The usual fauna found

2 mi. SE Beegun, 1650', Tehama Co., Calif.

May 26, 1946

Associated with Ensatina was lacking. Only a few Centipedes were seen, and no millipedes, angleworms, termites, or ~~termites~~ carabid beetles. Very little life was seen at all under logs. Some ants, and 1 Sceloporus occidentalis. Returned to camp and skinned, ate lunch, and then hunted birds from about 2-4 p.m. The afternoon was very windy, and consequently the birds stayed pretty close to home. Few bird songs were heard, although cowbirds and linnets sang even at the height of the wind. Shot one slender-billed nuthatch, then returned to camp, picked up 2 traps, and went over my trap-line, rebaiting and resetting and moving some of the traps to more desirable locations. The 2 additional traps I added to the upper end of the line, running it about 200 yards further up canyon almost to the source of the stream. As these notes are written at 7:10 p.m. the weather is clear and cold sky almost cloudless, and wind strong.

Birds heard or seen, not previously listed: - Western Flycatcher, Western Gnatcatcher, green-backed goldfinch.

May 27, 1946

Ran traps in a.m. 2 Perithodonomys megalotis, 2 P. maniculatus, 3 P. truei. Hunted on the way down from trap line, collecting a California Jay and

2 mi. SE Beegun, 1650 ft., Tehama Co., Calif.

May 27, 1946

a spotted towhee. Skinned, ate lunch, did a few personal chores, and went out to set traps at about 4 p.m. Picked up the bottom 50 traps from my line 1 1/2 mi. S. Beegun 1750 ft. and moved them to a small dry canyon paralleling the canyon in which the remaining 50 are set. This second canyon is just over the ridge from the first, and joins it about 1/3 of the way down to the road. The 50 reset traps were put in and around the scrub oaks, and several were set around large rock outcroppings. No particular sign was noted, save for occasional Ground Squirrel burrows. Returned to camp c. 5:30 p.m. Weather today has been clear and sunny, rather cool, with a fair amount of wind.

May 28, 1946

Picked up all traps in a.m. Along the stream I caught 2 Neotoma fuscipes and several P. truei. In the 50 traps set in the scrub oaks and rock outcrops were 1 H. meg-
lotis and about 8 or 9 P. maniculatus. Skinned in a.m. and then we packed the truck and left our camp c. 1:00 p.m. Drove into Beegun, ~~where we picked up some groceries~~ and then drove on to Platina, where we picked up groceries. From Platina we drove WNW to Wildwood, Trinity Co. The country keeps getting higher as one proceeds from Platina to

2 mi. S.E. Beegun, 1650', Tehama Co., Calif. to
white Rock Ranger Station, 4800 ft., Trinity Co., Calif.

May 28, 1946

Willow and is yellow pine - Douglas fir,
with some Black Oak. We turned back at
Willow and returned as far as Harrison
Gulch Ranger Station, then proceeded south
11 miles to Lagan Meadows, where we looked
about for a few minutes, then south again to
White Rock Ranger Station, 4800 ft., Trinity Co.,
where we made camp. We passed by the
camp side and followed the road to its end,
a few miles farther on, then came back and
made camp. We are directly across the valley
from the north side of Black Rock Mountain. North
Yolla Bolly Can also be seen just East of Black
Rock Mtn. The country here is predominantly
Douglas fir - yellow pine, with some Incense
Cedar, and scattered scrub + Golden-leaf Oaks.
The Black Oaks are very small and just coming
into leaf. There is not very much cover, the
ground being dry + strewn with conifer leaves.
There are many down-logs under the trees.
Directly in front of the ranger station is
a small mountain meadow. After supper
I set 25 traps along a stream adjacent to
camp. Then hunted owls from 8-9 p.m. but
heard none.

White Rock Ranger Station, 4800 ft, Trinity Co., Calif.

May 29, 1946

3 Peromyscus maniculatus in traps. Went hunting till noon but saw little. Took a hermit warbler (1718) which came down to my Pygmy Owl calls, and a Steller Jay (1717). Skinned in p.m. and set about 25 more traps out along a creek about a mile from camp toward Grasshopper. The creek flows over large rocks, and numerous logs and dead trees have fallen over it. There are many little waterfalls along its course. Set about 20 traps ~~ways~~ in the meadow directly in front of the Ranger Station, only about 15 yds from camp.

May 30, 1946

Traps in meadow and along creek near Grasshopper yielded nothing but Peromyscus maniculatus. In one trap in the first line I set at this location on May 28, was a Clethrionomys mayanus (1719). Dr. Miller, Russell + I drove fast grasshopper to the end of the road. Ward and I then walked down to the East Fork of the South Fork of the Trinity River. Dr. Miller headed for a ridge - top a couple of miles distant. After hunting in the vicinity of the river for about an hour with no results, I headed up hill to the road, then went to the top of the ridge and the

White Rock Ranger Station, 4800 ft., Trinity Co., Calif.

May 30, 1946

side of which the road is cut. The top of the ridge was park-like yellow pine forest, with under story of Ceanothus (Cordulatus?), scrub oak, and seedling yellow pines. Took 2 fox sparrows, a mountain chickadee, and a pygmy owl along the ridge-top. Heard ~~many~~ numerous Cassin finches singing in the tree-tops. On the way down collected an Oregon Junco by a shaded creek. The bird was one of a pair that came to my owl calls. Skinned in p.m.

May 31, 1946

Trap lines yielded 1 Microtus californicus. Went east of camp about $1\frac{1}{2}$ miles and then left the road and cut up to the top of the ridge. The top of the ridge was very rocky, with large, dense patches of manganita and Ceanothus growing between the rocky outcroppings. There were numerous fox sparrows in the Ceanothus and their call notes + song were the predominating bird noises along the ridge crest. Hunted along the crest and then worked down through the yellow pine - Douglas fir forest back to the road, taking three fox sparrows, a mountain chickadee, an indigo bunting, and a pygmy owl.

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Davis
1946

White Oak Ranger Station, 4800 ft, Trinity Co., Calif.

May 31, 1946

and a Pine Siskin. Skinned in p. m.
After supper we went bat-hunting in the
meadow below camp. Mr. Miller shot an
Myotis evotis and a Saxonycteris noctivagans.

June 1, 1946

Spent morning hunting Triturus in a
small pond Ward Russell found and told
me of yesterday. He took a Clemmys marma-
rate crawling on a log at the pond's edge,
and noticed several Triturus lying on the
silt at the water's edge. I collected fifteen
in about 2 1/2 hours. After lunch turned over
logs, and found 3 Ensatina and 1 Triturus.
Collected a garter snake from the creek adja-
cent to camp.

June 2, 1946

Hunted amphibians from 6-8 a.m. Then
returned to camp and spent the day in
bed, as I felt ill. Caught 1 Gerrhonotus
(1757) under a log at about 7 a.m. Specimen
was so cold it was completely inert and
appeared lifeless. Found 1 Triturus and
1 small Ensatina in a canyon about 3 1/2
miles east of camp.

Lewis 39
1946

White Rock Ranger Station, 4800 ft, Trinity Co., Calif.
to 2 mi. W. Hyamfon, 1200 ft, Trinity Co., Calif.

June 3, 1946

Picked up trap lines in a.m. Several Peromyscus maniculatus, which I discarded, and 1 Eutamias townsendii (1708) which I prepared. We broke camp, loaded the truck + pulled out at about 8:25 a.m. Stopped at Harrison gulch on the way out while Dr. Miller looked over the yellow pine forest for a census plot. Russell and I caught some Rana b. boylei. We drove back to Placerville for gasoline, then turned back through Wildwood and on to Hayfork, where we picked up mail and groceries. From Hayfork we continued on to Hyamfon, and established Camp 2 mi. W. Hyamfon, 1200 ft, Trinity Co.,

Calif. Our camp is located at the base of a grassy knoll which is terraced by cattle. Below camp about 100 ft. is Carlin Creek, which is 6-10 ft wide and has a good flow of water. This area is at the base of South Fork Mt. The timber is mostly Douglas Fir higher up, but around camp there are Garry and Black Oaks, Douglas Fir, Yellow Pine, Scrub Oak, and some almost pure patches of manzanita. The timber is concentrated in small stands, mostly, alternating with open, grassy meadows, through many of which streams flow, diverted from natural streams by the ranchers. Asa result,

1 mi. W. Hyampom, 1200 ft., Trinity Co., Calif.

June 3, 1946

many of the meadows are very boggy, and have dense patches of sedge in them. After supper Dr. Miller & Ward Russell found an abundance of ~~owls~~ screech owls just north of camp, and collected 4. I set 25 traps along a small creek.

June 4, 1946

Picked up trap line. Two adult Peromyscus maniculatus, discarded, and 1 small Microtus californicus (1759), which was trapped at the base of a large fallen log adjacent to Carlin Creek. Hunted until about 10 a.m. Caught a Thamnophis ordinoides (1765) in a meadow bog. The abundance of Rana b. boylei along any watercourse here should be favorable for Thamnophis. Found a small Emmeces skiltonianus (1766) under a dead log at the edge of a meadow. Shot 6 birds, discarding a Black-throated Gray Warbler as it was too badly shot up to preserve. Saw a Red-winged Blackbird in one of the flooded meadows, & heard several more. Saw two California Jays fly over as I stood in a patch of Douglas Fir. The fir forest higher up seems very poor in number & variety of birds. Set 50 traps in p.m.

2 mi. W. Hyampom, 1200 ft, Trinity Co., Calif.

June 5, 1946

Trap lines yielded 1 Peromyscus maniculatus, which was discarded, and 2 Peromyscus truei (1768+1769) which were saved. The P. truei were both caught in sets near a stream, one under a shrub and the other at the base of a small rock. Hunted birds in an irrigated field below camp, about $\frac{1}{4}$ mile ENE. The field comes right to the edge of the bed of the Hayfork River. The river side of the field ~~is~~ is bordered by dense, massive tangles of Vitis, alternating with dense, low thickets of Salix sp. and scattered cottonwoods and Garry Oaks. The camp side of the field is bordered by a fairly continuous strip of Garry Oaks backed by Douglas Fir and Yellow Pine. Several Song Sparrows were heard singing in the willow thickets on the river side. One (1770) was collected. Allen Hummingbirds were seen on both sides of the field. One (1772) was shot as it perched on the very top of a dense grape tangle. A female was wounded close by, but was lost in the undercover. These 2 hummers were both on the river side of the field. Purple finches were seen and heard on both sides of the field. 2 (1773 + 1774) were taken, both in oaks but on opposite sides of the field.

2 mi. W. Hyampom, 1200 ft. Trinity Co., Calif.June 5, 1946

Spotted Towhees were abundant in the undercover under the oaks on the camp side of the field. One (1771) responded to my screech owl calls and was collected. None were seen or heard on the river side. Yellow warblers were common on both sides, + were seen and heard in oaks + willows. Long-tailed chats were very common, but more numerous on the river side, where they occupied the grape ~~thickets~~ and willow tangles. Several California Quail were flushed. They were found only in the grape tangles on the river side. One Bewick Wren was seen in a grape tangle. Mourning Doves were flushed twice from the ground in the dry west end of the field, about midway between the long sides. One raven flew over in the afternoon while I was setting traps along the irrigation ditches. 40 traps were set. A few Microtus runs were noted.

June 6, 1946

Traps yielded 5 Microtus californicus, 4 of which were saved, and 1 Peromyscus truei, also saved. After running my trap line, I hunted along the river side of the field. There are several

2 mi. W. Hyampom, 1200ft, Trinity Co., Calif.

June 6, 1946

good stands of Fraxinus oregana near the river. A few black oaks were also noted. Two song sparrows were taken, both in the willow thickets by the river. Two downy woodpeckers were taken from a cottonwood tree by the river, within two minutes. Western bluebirds were noted in the cottonwoods. Violet-green swallows are numerous along the river. One ash-throated flycatcher was seen on the top of a cottonwood tree at least 50 ft high. I shot at the bird but missed. Many Allen Hummers were noted, especially about patches of Rosa and Rubus where they were feeding. Three ♀'s were seen at one time feeding in one large blackberry patch. In the afternoon I moved my traps from the irrigation ditches and set in the willow and grape tangles, and under the ash trees. Several traps were set in pure patches of Salvia sp.

June 7, 1946

Traps caught 5 Microtus and 1 P. truei. Only the Peromyscus was saved. Hunted in the willows and cottonwoods along the river.

Davis
1946

2 mi W. Hyampom, 1200 ft, Trinity Co., Calif.
June 7, 1946

Took 2 House Wrens in the willow tangles near the river. Evidently a mated pair. Noted nest containing young in an old Woodpecker hole in a stub, apparently belonging to this pair. Nest hole about 10 ft above the ground. Yellow Warbler taken from an ash and a Song Sparrow from a low willow thicket. About 7:30 a.m. saw a Dark Hawk fly over, going ^{South} ~~North~~, about 150 ft overhead. Later on ran into a flock of 10 or 12 Cedar Waxwings calling and working through the Cottonwoods near the river. On the way home noted a Cooper Hawk pursuing a small bird across the field. The bird flew into a tangle of brush and the Cooper Hawk flew off. In the afternoon, about 3:30, while picking up my traps, I noted a Long-tailed Chat flutter from a grape tangle into the grass. I walked toward it, and the bird flew toward me with a fluttering wing-beat and hit on my left shoulder. I retrieved it and found blood spots on its breast feathers. Its lower mandible was broken and caked with dried blood. It was evidently a bird I had wounded some time before. The specimen was collected.

The following is a list of the birds noted in the border of the field: - California Quail, Yellow Warbler, Long-tailed Chat, Pewee, Ash-throated Flycatcher, Trail Flycatcher, Violet-Green

2 mi. W Hyampom, 1200 ft, Trinity Co., Calif.

June 7, 1946

Swallow, Brown Towhee, Spotted Towhee, Purple Finch, Song Sparrow, Green-backed Goldfinch, House Wren, Dewick Wren, Cedar Waxwing, Turkey Vulture, Downy Woodpecker, Western Bluebird, Warbling Vireo, Allen Hummingbird, Black-headed Grosbeak, Western Robin, Western Tanager, West Killdeer, Spotted Sandpiper, Bend-tailed Pigeon, Mourning Dove. The following were noted overhead: Buck Hawk, Osprey, Raven.

June 8, 1946

Dr. Miller and I drove across the river and hunted in the oaks above the river. The ridge we hunted is approximately 2000 ft high. The vegetation is broken up into small patches and several different types of cover were hunted: - Open grassland; Ceanothus; Arctostaphylos; Garry Oak; Garry Oak and Douglas Fir. Black Oaks were noted, but were scarce, and most of the ones I saw were along a small, well-shaded creek. A California Jay was collected from a large Douglas Fir. It was one of a pair. Both birds were calling. A ^{slender-billed} mint-hatch and a Downy Woodpecker were taken in a large stand of Garry Oaks. A Gnatcatcher and a Spotted Towhee were taken in Ceanothus patches. A Black-throated Gray Warbler was collected in a small

2 mi. W. Hyampom, 1200 ft, Trinity Co., Calif.
June 8, 1946

Garry Oak at the edge of a patch of Leaenothus.
An Ash-Throated Flycatcher was taken from a
large Garry Oak. When I gave Screech Owl
calls it flew from a limb about 30 ft above
the ground to one about 8 ft above ground. It
then flew into the dry grass about 20 ft from
me, then back to a low limb in the Garry
Oak, from which perch it was collected.
Black-Throated Gray Warblers were very
common in the oaks. Green-backed Gold-
finches were also common in Leaenothus
and Oak patches which bordered on open
grassland. Hutton Vireos were common
in the oaks and would fly into adjacent
Leaenothus when I started owl calling,
often coming within 2 feet of my head.
The birds almost always came in pairs.
Spotted Towhees were common in Leaenothus
and answered owl calls by calling and
then coming in. They usually responded
in pairs. Hairy Woodpeckers were scarce
and 2 or 3 were noted in Oaks. 7 or 8 Downy
Woodpeckers were seen or heard in the oaks.
One Likated Woodpecker was seen. It was very
wary and flew from oak stub to oak stub,
giving only one or two taps (!) at each station.

2 mi. W. Hayfork, 200 ft, Trinity Co., Calif.

June 8, 1946

California Jays were seen in a mixed stand of Oaks and Douglas Firs. The 2 noted stuck to the firs. Several others were heard but not seen. Purple finches were seen and heard in the oaks. Returned to camp and skinned in the afternoon.

June 9, 1946

Broke camp, packed the truck, and left this locality c. 8 a.m. Drove to Hayfork, turning left about 2 miles east of town, turning north and taking the Big Creek Road to Hayfork Baldy (Baldy). The road follows Big Creek quite closely. There is quite a bit of lumbering going on in this canyon. Although it was Sunday, one mill was in operation. Another was seen idle. The timber being cut is Douglas Fir. The canyon walls are badly timbered off in several places. We turned off the Big Creek Road to the west taking the road to Hayfork Baldy (sic) Lookout. This road ended at an abandoned homestead, where we made camp. Altitude about 3000 feet. After lunch, Ward and Dr. Miller climbed almost to the top of Hayfork Baldy in search of fox sparrows. I went back to the Big Creek Road and followed Big Creek south about three miles, looking for Lusitana. The country did not look too favorable, as the walls of Big Creek Canyon are very steep. Fur-

Big Creek, 4 mi. N and 2 mi E of Hayfork, 2800 feet, Trinity Co., Calif.

June 9, 1946

Then, the loggers had stripped much of the lower part of the canyon walls along the stream. By following the creek, I found a few places where the canyon walls flattened out adjacent to the stream. These "points" were shaded by Acer macrophyllum, with scattered Douglas Fir and Alnus sp. The undercover was mainly Cornus nuttallii, which was blooming. There were numerous tangles of Rubus sp. Where the undercover thinned out, the forest floor was covered with a rather thick litter of maple leaves. All of these "points" were found at the foot of the east-facing slope. The west-facing slope was, for the most part, open, arid, and very sandy and gravelly. Three adult and 2 immature Ensatina were taken (1801-1805). One adult was taken under a small log about 4' x 8" in fairly moist soil. Another was taken under a small log in rather dry soil. It was covered with dust when collected. One immature was taken under a small log in rather damp soil. The last 2 specimens taken were found in a pile of about 6 slabs of wood covered with moss. An immature individual was taken under the first slab, that is, between the first and second slabs. An adult was taken between the second and third slabs. There was a good deal of moisture in the slab pile. The five speci-

Big Creek, 4 mi N and 2 mi E of Hayfork, 2800 feet, Trinity Co., Calif.
June 9, 1946

men were taken between 50 and 100 feet from Big Creek. Numerous large Gerrhonotus were seen and heard crawling through the leaf litter. 2 were taken. The locality given the 5 Ensatina and the 2 Gerrhonotus is the same as that at the head of this page. After supper, Dr. Miller heard Hamulated Screech Owls calling, and he and Ward went in search of them. Ward returned about 9 p. m. We started to turn in at 10 p. m. when I heard an owl calling from the ridge above us. The night was bright moonlight, but the owl was calling steadily. Ward and I met Dr. Miller on the ridge. He was after the same owl as we were. Dr. Miller finally collected this ^{male} owl. Ward called up and collected another male, and we called in a female, but were unable to find her in the trees, so returned to camp at 0045 June 10.

June 10, 1946

Skinned some of the Fox sparrows Dr. Miller had collected June 9. Then broke camp, packed the truck and drove to Hayfork where we picked up mail and groceries. Ate lunch and drove to Weaverille, where we picked up more groceries. Then drove out on Highway 299 towards Arcata.

Big Creek, 2800 ft., Trinity Co., Calif., to Redwood Creek at
Crossing of U.S. Highway 299, Humboldt Co., Calif.

June 10, 1946

We stopped and made camp on Redwood Creek about 1/4 mile from the point where U.S. Highway 299 crosses it. After supper and then hunted Screech Owls across the creek, along a rather steep ridge. The lower slopes of the ridge was open and grassy, the upper third being covered with a rather heavy growth of small Garry and Black Oaks. Occasional Douglas Firs were noted. A ♂ responded to my calls in the Oaks, and after a few seconds flew a few feet over my head and disappeared down slope. After working the Oaks on the top of the ridge without success, I made my way down slope, and about halfway down, started a ♀ calling. The bird was in a low alder thicket at the edge of an opening in the trees. The opening was covered with grass and ferns, and ringed by Oaks, low alders, and two or three clumps of Douglas Firs. When I shone my light on the ♀, a second owl started chuckling, and I got its eyeshine a few feet above her. I fired at the ♀ and wounded it, fired again, and the bird remained motionless, hanging upside down from a branch. When I went to retrieve it, the owl flapped away and I was unable to find it. Shortly afterward the ♂ started calling.

Redwood Creek at Crossing of U.S. Highway 299, Humboldt Co., Calif.

June 10, 1946

The bird responded well to my calls, but remained high in the Douglas Fir, which were the tallest trees adjacent to the opening. It moved from tree to tree several times, always going from Douglas Fir to Douglas Fir. I was unable to ~~shoot~~ ^{shoot} the bird, although on several occasions I was directly beneath it. After about 20 minutes, the bird stopped calling, and I returned to camp.

June 11, 1946

Left the Redwood Creek Camp after breakfast and continued west on U.S. Highway 299 until it joined U.S. Highway 101. We turned north on 101 and continued on to Orick, stopping at Big Lagoon for a few minutes on the way. Continued north on 101 to a point about $4\frac{1}{2}$ miles north of Orick, turning west and crossing Prairie Creek at this point. We drove about 4 miles west until we came to the beach, and made camp at that point. Our locality is: 2 mi. W. of Elk Grove, at sea level, Humboldt Co., Calif. (Refer to following map: U.S. Army, Corps of Engineers, Orick Quadrangle). To the west about 30 yards are low-lying dunes, covered with shrubs. Beyond them about 250 yards is the ocean. To the ~~east~~ north are thickets of low shrubs, leading to a small la-

2 mi. W. of Elk Grove, at sea level, Humboldt Co., Calif.

June 11, 1946

goon ringed with a dense growth of some ~~type~~ type of marsh grass. There are dunes and a similar but smaller lagoon to the south. To the east, the road leads through a small grove of dead ~~and~~ or poorly growing Sitka spruce, thence into more densely growing spruce mixed with redwoods. The road then passes through an area of redwoods where there has been considerable logging, and only the smaller redwoods have been left. In this area there is a dense undercover of ferns, salal, and Vaccinium. This area extends to the top of the ridge about 1 mile east of camp. Beyond the ridge the virgin redwood timber starts. The trees are very large, but there are 2 sawmills in the area, and a gang of spike-splitters, and the larger redwoods are being felled. After lunch I went east along the road about $1\frac{1}{2}$ miles to the first sawmill, which is not yet in operation. On the way collected a Batrachoseps attenuatus from under a log by the side of the road. Set 30 traps along a creek behind the sawmill. The growth along the creek is exceedingly dense. Most of it is sal-monberry and some type of saw-grass. The grass in some places entirely roofs the creek



2 mi. W of Elk Grove, at sea level, Humboldt Co., Calif.

June 11, 1946

over, forming a tunnel about 4 feet above the water surface. Twenty additional traps were set in the dry woods about $\frac{1}{4}$ mile west of the sawmill. The undergrowth was sparse, mostly Vaccinium.

June 12, 1946

Trap line caught 1 Song Sparrow in the grass by the water's edge, 1 immature P. maniculatus, caught in a trap set on a moss-covered log lying across the stream, 1 Microtus oregoni caught in a trap set in a run about 3 inches below the surface in the mud on the creek bank, and 4 Sorex pacificus, caught at the water's edge or on the grassy creek banks. One Sorex had a smashed skull and was discarded. The 20 traps in the woods were blank and were picked up. Skinned in a.m. and set 20 traps along the creek below the 30 I had set yesterday. In the evening, which was foggy, we heard several birds flying high, above the fog, and giving high, squeaking notes. The only bird we can think of that would be flying inland fairly late in the evening (c. 8:00 p.m.) is the Marbled Murrelet which has been heard in this vicinity

2 mi. W. of Elk Grove, at Sea level, Humboldt Co., Calif.

June 12, 1946

Several times in years past. We were unable to see any of the birds.

June 13, 1946

Picked up all my trap lines. Total catch was 1 Sorex pacificus and 1 Sorex howbridgi, both caught in sets near the creek. I took the traps to another creek about $\frac{1}{2}$ mile West of the one I had set on, and left them for setting later in the day. Returned to camp, and started out eastwards on the road to Prairie Creek. About $\frac{1}{2}$ mile east of camp, in an area of tall red-woods with a dense salal and fern under-cover, I started a Pygmy Owl, which called from several stations in a circle about me, but never came too close. At about this time the overcast turned into an intermittent, squally, rain. I continued eastward another mile, and at the first sawmill the road forked, the north fork being the one we had come in on. I took the south fork. The weather was still overcast, but no rain was falling.

The road ~~led~~ east, through an area in which logging operations were taking place. About $\frac{1}{2}$ mile from the take-off the signs of logging ~~had~~ disappeared, and the road went through some magnificent stands of

2 mi. W. of Elk Grove, at Sea level, Humboldt Co., Calif.

June 13, 1946

redwood. I finally reached the crest of a long ridge, and started down. The loggers had really stripped this slope, and shattered trees were strewn as far as the eye could see. The caterpillar tractors had churned the earth wherever they had gone. The road eventually led into a dairy, known as the Davison Dairy. I talked at some length to the owner, Mr. Davison. He told me that he had killed two Murrelets in his barnyard "about 100 or 15 years ago." They were unable to fly. He had heard them squeaking as they flew overhead, and had heard them, every year at least as far back as the time when he had killed the two in his barnyard. He knew that the nest of this bird had never been discovered. When I asked him if the egg-collectors from Eureka had been out here looking for Murrelet nests, he said that they had, and mentioned in particular a Mr. Tebig (sp?). He told me that we were camped by the Union Gold Bluff Mine at Lower Gold Bluff, but that at the Old Pioneer Mine, at upper Gold Bluff, some 5 ± mi. North of us, he had seen the Murrelets fly out of the red-woods behind the beach, skimming along a few feet above the ground on their way out to sea. He told me that there were Blue Grouse and

2 mi. W. of Elk Grove, at sea level, Humboldt Co., Calif.

June 13, 1946

"Mountain Quail" before they built the new road" (apparently U.S. 101) but that they had disappeared with the increased incidence of automobile traffic and presumably increased hunting. As we were talking, I noticed a Black Throated Stationed on a fence post about 10 feet away. The bird was making frequent flights after insects. Mr. Davison told me that it had nested on his property "for several years". After leaving the dairy, I walked out to Highway 101 and started toward the road over which we had entered the redwood forest. The rain, which had been threatening for some time, fell heavily, and I spent about an hour sitting under a tree. After the rain stopped, I returned to camp, stopping only where I had left my traps earlier in the morning. 50 traps were set, about 25 along the grassy, fern-shaded margin of the creek, and the remainder under logs and at the bases of stumps about 50 to 100 feet above the creek. There were numerous fallen redwoods above the creek, moss-covered and surrounded by deep leaf litter. Many excellent-appearing sets were made. Rain started to fall at about 6:15, and we ate supper in the tent. After supper we again heard Murrelets flying high and fast above the overcast, giving their loud call-notes.

1 mi. W. of Elk Grove, at sea level, Humboldt Co., Calif.

June 14, 1946

Picked up my trap line after breakfast. Total catch: - 1 Zapus trinotatus, caught by the tail in a trap set in the grass and sedges a few feet from the creek. Returned to camp and left my traps. On the way back I tried pygmy owl calls at the place where I had started a pygmy owl the previous day, but I received no answer. Left camp and walked about 4 miles ^{North} up the beach, toward Upper Gold Bluff, in an attempt to find the Old Pioneer Mine, but I saw no evidence of any buildings or other installations. Bird life along the beach proper was quite scarce. Turkey Vultures were common, and were noted flying over and along the sandstone bluffs some 250 yards east of the beach. Two dead sea lions were seen on the beach, the first with 2 Turkey vultures feeding on it, the second with 2 Ravens and several Turkey vultures about it. Several pairs of Ravens flew overhead, always out of gunshot. Cormorants were seen swimming in the surf a few yards offshore, and flying over the water. They were probably Brandt's Cormorants. Several flocks of gulls were seen on the beach at the water's edge. The first three were small, about 20-30 birds each. They were composed of c. 75% Western Gulls, mostly

2 mi. W. of Elk Grove, at sea level, Humboldt Co., Calif.

June 14, 1946

immatures (about 60%). 25% were Heermann Gulls. Their dark bodies and mantles and white heads set them well apart from the Westerns, although the 2 species were well mixed within the flocks. The gulls were very wary and I could not get very close to them. Took one shot at a flying Heermann gull but missed it. The last flock of gulls seen was the largest. They were grouped at the east west end of a large lagoon 100 yards east of the beach. Of the 75± birds in the flock, 20-25% were Heermanns, the rest Westerns. Three California Murres were noted lying dead on the beach, the bodies apparently having lain in situ for a considerable period judging from their condition. I returned along the base of the bluffs. Grass grows down the draws in the bluffs and out on the beach for a distance of ±50 yards. It is especially luxuriant where small streams flow down from the bluffs and end in boggy areas at the bases of the bluffs. Litter were seen feeding in the denser grass patches, and cattle sign was noted almost all the way home. Raccoon tracks were common, ha-

2 mi. W. of Elk Grove, at sea level, Humboldt Co., Calif.

June 14, 1946

ding from the bluffs out on the beach, in some instances almost to the water's edge. Willow goldfinches were singing at the bases of the bluffs, in the grass, and song sparrows were heard in the shrubs about 30-40 yards out on the beach in the grass belt. White-crowned sparrows were common both at the bases of the bluffs and in the shrubs on the beach, calling and singing. One was taken from a shrub. Returned to camp without further collecting. Later in the afternoon I set 30 traps in a very wet, grassy meadow in the Sitka spruces just above the lagoon $\frac{1}{4}$ mile north of camp. After supper we heard the Murrelets again. They were not calling overhead where it was clear, but we heard them calling north of us where the fog was rolling in from the ocean. Dats started flying at about 8. Miller and Russell shot 3, all L. noctivagans, and I took a Myotis (bairdii?).

June 15, 1946

Picked up traps. Catch = 1 Microtus oregoni. Ward, who had set nearby, caught 2 shrews. We put up our catches, then broke camp & headed out to 101 at 6:20 a.m. Headed south

2 mi. W of Elk Grove, at sea level, Humboldt Co., Calif., to
Berkeley, Alameda Co., Calif.

June 15, 1946

to Berkeley, arriving there at 6:15 p.m.

Species Accounts

Amphibians and Reptiles

Birds

Mammals

Amphibians and
Reptiles

Triturus
White Rock Ranger Station, 4800 ft, Trinity Co., Calif.

June 1, 1946

Visited a pond about which Ward Russell had told me the previous day. He mentioned having seen Triturus lying on the bottom of the pond near the shore. I used a small hand net to collect the specimens. The Triturus were seen lying on the fine dark silt, from 6" to 10 ft from the pond's edge, in water from 2" to about 6 ft. deep. The dark dorsal coloration blended in well with the substrate, although the substrate in some cases was considerably lighter than the dorsal coloration. The larger individuals tended to stay farther off shore, and in deeper water. The one large adult taken was quite smooth. Of the remainder, a few are in the process of losing their rugosity, but the great majority are still hard and granular. The animals seemed rather sluggish, and if alarmed crawled slowly along the bottom a few feet, and then stopped. A few swam away rather rapidly, a few inches from the bottom, their undulatory motions carrying them swiftly away. Several individuals were seen to burrow into the silt, which was exceedingly fine and at least 4 feet deep. This burrowing was apparently accomplished by the same movements used in swimming.

Triturus

2

White Rock Ranger Station, 4800 ft, Trinity Co., Calif.

June 1, 1946

Individuals collected in the pond are numbered J. S. 1735-1749. Catalog no. 1750 refers to a small individual found under a board adjacent to a creek flowing below camp. This specimen is quite granular.

June 2, 1946

Small individual (1756) ~~has~~ taken from a clear pool about 2 ft deep in a creek flowing east & west in a steep-sided canyon. Triturus in our locality have now been found in a pond, a stream, & on dry land.

2 mi. W. Hyampom, 1200 ft, Trinity Co., Calif.

June 7, 1946

One specimen (1787) collected in the sand under a tangle of small willows about 100 ft from the Hayfork River and about 20 ft from a small creek flowing into the Hayfork.

1871
The first of the year, 1871, was a very dry one, and the crops were much injured by the drought.

The second of the year, 1872, was a very wet one, and the crops were much injured by the rain.

The third of the year, 1873, was a very dry one, and the crops were much injured by the drought.

The fourth of the year, 1874, was a very wet one, and the crops were much injured by the rain.

Ensatina

White Rock Ranger Station, 4800 ft, Trinity Co., Calif.

June 1, 1946

Hunted Ensatina from 1-3 p.m. in a canyon south of camp about 100 yards. This canyon is steep sided, but has a rather broad, gentle lower slope on its west wall, leading down to a small, rapidly-flowing stream about 6 ft wide. The lower slope is predominantly Douglas Fir, with scattered Incense Cedar. Along the stream bed there is mostly Incense Cedar, and the trees are small. Three Ensatina were taken, nos. 1752, 1753, + 1754. The large adult was taken about 40 ft from the stream, under a small log, about 5 ft x 2 ft, well embedded in the Douglas Fir needle litter. The log was under a large Douglas Fir. The soil beneath the log was rather dry, but the animal was moist when picked up, indicating either that the salamander had just come up from below, or had been secreting prior to collection. No associated insects, millipedes, etc. were noted. The middle-sized individual was taken about 20 ft. from the stream, from under a small log lying beneath an Incense Cedar. Here again, the ground was rather dry, and no animal associates were noted. The smallest specimen was taken from under a dead pine knot about 6 ft from the

Muris
46

2


Ensatina

White Rock Ranger Station, 4800 ft, Trinity Co., Calif.

June 1, 1946

stream, the Ensatina lying near a group of Small Incense cedars. The individual would probably have been overlooked save for the contrast between the bright yellow forelimbs and the dark earth on which it was lying. The substrate was rather damp, and small, black ants were also seen beneath the log. This section of the creek reminded me somewhat of Crystal Creek, where E. Croceator has been collected.

June 2, 1946

Hunted Ensatina from 7-8 a.m. in a canyon about $\frac{3}{4}$ mile east of camp. One small specimen (1755-KH3) was taken under a small piece of Douglas Fir bark, lying on an "island" about 60 ft long and 20 ft wide, surrounded by two branches of the main creek . Substrate moderately damp. No other animals noted in association with the Ensatina. Vegetation on the "island" included Acer macrophyllum, Alnus sp., Incense cedar, and Douglas Fir.

Chairs
146

Hyla regilla

1 1/2 mi. S. Beegun, 1750 ± ft., Tehama Co., Calif.

May 27, 1946

One heard calling c. 5 p.m. from a boggy area overgrown with sedges.

White Rock Ranger Station, 4800 ft, Trinity Co., Calif.

May 28, 1946.

Numerous Hyla heard between 8-9 p.m.

airs
46

Emmees skiltonianus

1 1/2 mi. S. Beegun, 1750 ± ft., Tehama Co., Calif.

May 27, 1946

One seen crawling through twig + leaf
debris under a large Adenostoma shrub

C. 4:30 p.m.

Sceloporus occidentalis

2 mi. SE Beegun. 1650', Tehama Co., Calif.

May 24, 1946

One specimen (1688) taken c. 5 p. m. from under small rock adjacent to creek. Individual was quite sluggish, as weather was rather cool.

May 25, 1946

One (1689) taken from under narrow board under a Blue Oak, c. 10:30 a. m.

May 26, 1946

One found but not collected under an oak log at in the grass at the head of a grove of Black Oaks. Time: 8:30 a. m. Air cold, & specimen Very Sluggish. Two more were seen at about 2:50 p. m. Were very active, and ran through grass a short way & disappeared under fallen logs.

May 27, 1946

As I ~~re~~ baited the traps in my line, about 1/2 mi NW of camp, ~~at~~ from 4-5:30 p. m. I noticed numerous Sceloporus. Nearly every down log and every sizeable boulder had one or more fence lizards on it. They were quite active.

Birds

Glaucidium gnoma
White Rock Ranger Station, 4800 ft. Trinity Co., Calif.

May 30, 1946

while hunting on a ridge - top about 2 miles east of camp (see species notes for Passerella iliaca for May 30 for description of terrain) I often gave pygmy owl calls, mainly in the hope of attracting smaller felines down from the tree-tops. Much to my surprise, I was answered on one occasion by two pygmy owls, one within two minutes of the other, and on opposite slopes of the ridge. I continued my calls, and soon they were nearby, giving excited trills as well as hoots. I was between the two birds, but they forgot about my imitations and started to go after each other. Soon both were past me. I walked on until I was again between them, and again they went past me. After this happened several times, I finally caught a glimpse of one high in a Douglas fir and dropped it with 10's. The other apparently flew off, as it did not answer my calls any longer.

birds
46

Passerella iliaca

White Rock Ranger Station, 4800 ft, Trinity Co., Calif.

May 30, 1946

Hunted in a.m. along the crest of a ridge about 2 miles east of camp. The terrain was open and parklike, with scattered yellow pines and some Douglas fir. There was a scattered undercover of Ceanothus (cordulatus), scrub oak, and seedling pines. A ♀ Fox Sparrow (1724) emerged from a patch of Ceanothus in answer to my owl calls, + was collected. The bird was very fat, and ready to lay. It uttered repeated "check-check" notes before emerging from its cover. After coming the bird, heard a ♂ singing from a fallen log about 50 feet away and it was collected (1723).

May 31, 1946

Ran into a sizeable population of Fox Sparrows on the crest of a ridge east of camp. This crest is quite dry and rocky, with large patches of manzanita and Ceanothus growing around the rocky joints. Small Douglas firs and yellow pines grow just below the open crest. Pygmy owl calls + squeaks brought several Fox Sparrows out of the brush. Their loud "tsif-tsip" and "check-check" notes came in almost in immediate response to my squeaks. Males could be heard, and were later found, singing from the conifers below the Ceanothus. They

avrs
1946

2

Passerella iliaca

White Rock Ranger Station, 4800 ft, Trinity Co., Calif.

May 31, 1946

were from 6-10 ft up in the trees, but were never noticed perched on the treetops 15± ft. from the ground, as were the Oregon Juncos in adjacent trees. Two birds were collected in the Ceanothus. A third was taken at a lower elevation, in the middle of a large park-like forest of tall Yellow pines and Douglas firs. There was no Ceanothus for an appreciable distance.

Lavis
146

Aphelocoma californica

22 mi. SE Paequo, 1650', Tehama Co., Calif.

May 25, 1946

♂ (1692) taken from liggerline. Solitary
bird. Several small flocks (3-4) encountered
earlier in a.m. in liggerline.

May 27, 1946 - -

♂ (1707) collected from about 10 ft up in a
Blue Oak. Jays were heard calling, and when
I squeaked ~~they~~ two flew almost immediately
into a Blue Oak about 15 ft. from me. One was
collected; the other flew about 30 yds. away and
called several times, then was silent.

Sitta carolinensis

2 mi. SE Beegun, 1650', Tehama Co., Calif.

May 26, 1946

One (1701) taken as it foraged on a blue oak.
Gave three or four yank-yank-yank notes
while feeding. Pecked rapidly at one spot on
tree trunk just before it was shot.

Andrornia aestiva

2 mi. SE Beegun, 1650', Tehama Co., Calif.

May 25, 1946

♂ (1693) taken as it foraged very actively in a Blue Oak, about 20' off ground. Bird was solitary and not singing, and was quite fat when skinned. Others were heard singing earlier in the morning.

avis
746

Dendroica occidentalis
White Rock Ranger Station, 4800 ft, Trinity Co., Calif.

May 29, 1946

♀ (1718) taken from about 8 ft up in a small
Douglas Fir. Bird had come in with several
Juncos and Red-breasted Nuthatches in
answer to my Pygmy Owl calls.

avis
946

Carpodacus mexicanus
2 mi. SE Beegun 1650 Tehama Co. Calif.

May 25, 1946

♂ (1691) in full song taken from Blue oak.

birds
1946

Pipilo maculatus

1 1/2 mi. S. Beegun, 1750 ± ft., Tehama Co., Calif.

May 27, 1946

Numerous spotted towhees were singing and calling in a large patch of Adenostoma. When I started squeaking at the edge of the patch, a pair responded immediately. One was collected, the other flew.

Mammals

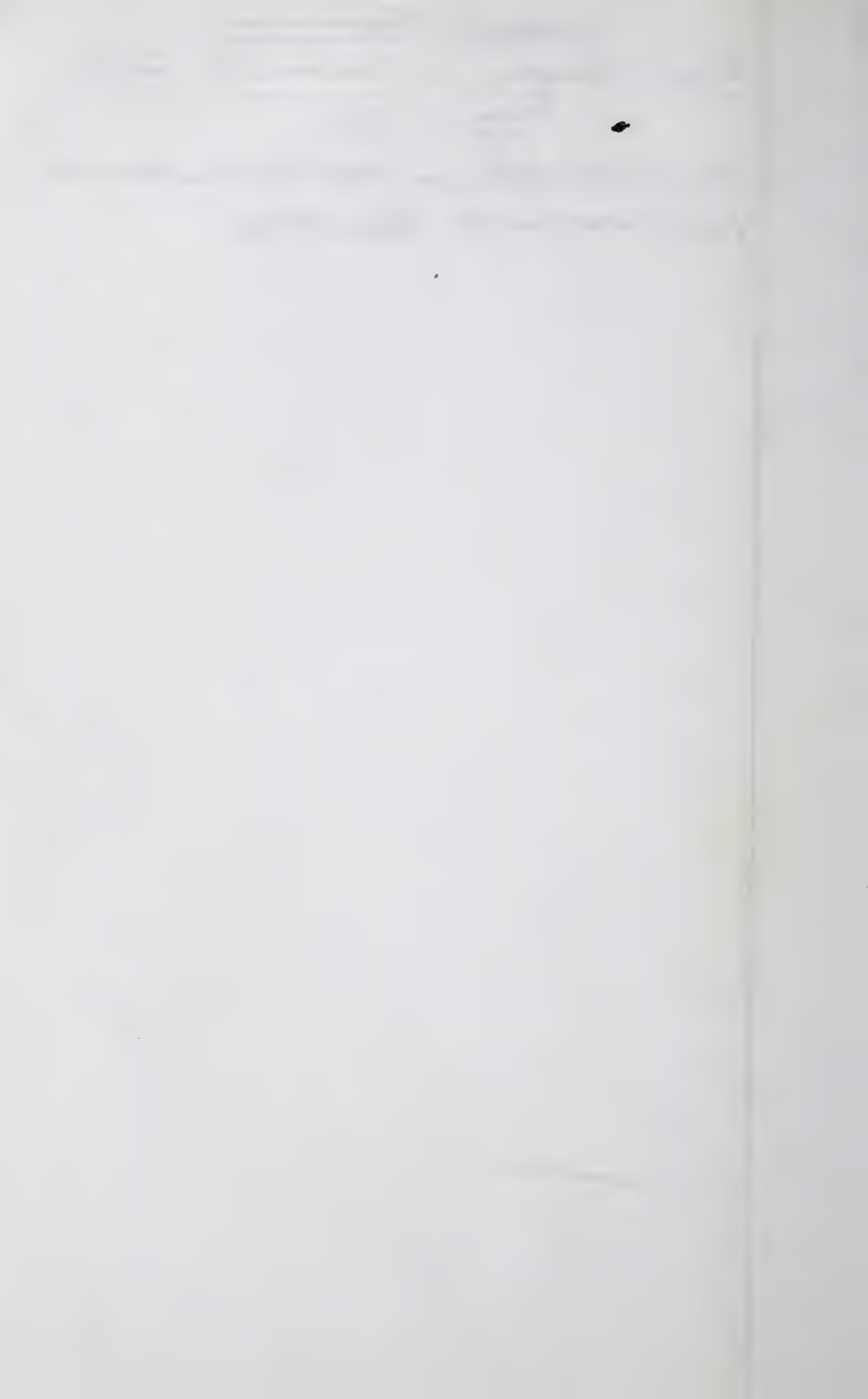
Pavis
46

Dipodomys heermanni

2 mi. SE Beegun, 1000', Tehama Co. Calif.

May 15, 1946

One ♀ (1690) taken in trap set at entrance to
fresh burrow under Adenostoma.



avis
146

Reithrodontomys megalotis

1 1/2 mi. S. Beegun, 1750 \pm ft., Pluma Co., Calif.

May 27, 1946

Two (1702 + 1703) taken in traps set
among rocks about 20 ft. above a
rocky streambed.

Lewis
746

Peromyscus maniculatus

2 mi. SE Belgaum, 1600' Tehama Co., Calif.

May 25, 1946

One adult, one subadult one immature taken in traps set at bases of Adenostoma shrubs. None saved. Immature was alive in trap, caught by tail. Uttered several high-pitched, thin squeaks when removed from trap.

May 26, 1946

One taken in a trap about 15' above a narrow creek. Trap was set at the base of a rock.

May 27, 1946

2 taken in traps set on rocky ledges 15-20 ft. above a narrow creek. Surrounding vegetation poison oak + dry grass. They were discarded.

his
1946

Peromyscus truei
1 1/2 mi. S Pecos, 1750±; Tehama Co., Calif.

May 26, 1946

8 were taken in traps set along a creek, but about 20' above the creek in rocks and scrub of foison oak, and at the bases of Blue Oak trees. In spite of intermittent rains during the previous night, they apparently were active.

May 27, 1946

Three taken in traps set in the rocks about 15 ft above a rocky stream bed (1704, 1705, 1706).

Sains
746

Neotoma fuscipes

1 1/2 mi. S. Beegun, 1750 ± ft., Tehama Co., Calif.
May 28, 1946

One adult ♀ (1709) caught in a set on a rock by the ~~water~~ stream, and adjacent to a tangle of Pinon Oak and Vitis sp. Rat & trap were lying in a small pool of water. About 75 ft. away another set caught a juvenal wood rat which was not saved.

Clethrionomys mayana

White Rock Ranger Station, 4800 ft, Trinity Co., Calif.

May 30, 1946

♂ (1719) taken in a mousetrap set by a creek some fifty yards from camp. The set was on the bank of the creek, in a damp location, about six inches from, and on a level 2 inches above, the water, and just below a tangle caused by the limbs of a newly cut alder sapling lying in the creek.

Microtus californicus1 1/2 mi. S. Beegun, 1750± ft., Tehama Co., Calif.May 26, 1946

Three taken in traps. One later discarded because its skull was broken. ♂ 1695 taken in a trap placed on a rock at the edge of and perhaps 2" above a small creek, which at this point was lined with moss-covered rocks. ♀ 1694 + the discarded specimen were taken in traps set in a boggy area covered with a lush growth of

No runways were noted. Although there was intermittent rain the previous evening, they apparently were active.

Davis, J.

June 22 - August 7, 1946
6

Mexico

Davis, J.

June 22 - August 7, 1946
6

Mexico

Contents

Catalog

Journal

Species accounts

Catalog nos. a-1820-a-1822
and 1823-1912

6 mi. W of Pachuca, 9600 ft, Hidalgo, Mex.

June 30, 1946

ad ♂	<i>Hedymeles</i> ^{<i>melanocephalus</i>} <i>melanocephalus</i>	Testis 11 mm.	41 gms.
ad ♀	<i>Pipilo maculatus</i>	ovary 7 mm.	40 gms.
	<i>Cyanocitta stelleri</i>	Testis 2 mm.	105 gms.

July 1, 1946

1823	ad ♀	<i>Junco phaeonotus</i>	ov. 6 mm.	21 gms.
1824	ad ♀	<i>Lathamus occidentalis</i>	Egg 23 mm. Brood patch	34 gms.
1825	♂	<i>Empidonax</i>	Testis 2 mm.	12 gms.

July 2, 1946

1826.	ad. ♂	<i>Colibri thalassinus</i>	Testis 2 mm.	5 gms.
1827.	ad. ♀	<i>Lathamus occidentalis</i>	ovary 7 mm.	29 gms.
1828.	ad. ♂	<i>Troglodytes brunnicollis</i>	Testis 6 mm.	12 gms.
1829.	ad. ♂	"	Testis 6 mm.	11 gms.
1830.	♂	<i>Myioborus miniatus</i>	Testis 1 mm.	8 gms.
1831.	ad. ♂	<i>Ergaticus ruber</i>	Testis 3 mm.	7 gms.
1832.	ad. ♂	<i>Hedymeles melanocephalus</i>	Testis 6 mm.	44 gms.

July 3, 1946

1833.		<i>Pipilo fuscus</i>		
1834.		"		

Zerezo, 3 mi. N of Pachuca, 9000 ft, Hidalgo, Mex.

July 3, 1946

1833.	ad ♂	<i>Pipilo fuscus</i>	Testis 14 mm.	46 gms.
1834.	ad. ♀	"	ovary 7 mm.	41 gms.

8.2 mi. E of Rio Tiro, ^{melanocephalus} 8200 ft, ⁱⁿ Puebla, Mex.

July 6, 1946

1835.	ad. ♀	<i>Pipilo fuscus</i>	ovary 17 mm. largest follicle 4 mm. oviduct enlarged.	Brood patch. 49 gms.
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3 mi. NE of Zalateta, 7600 ft, in Puebla, Mex.

July 6, 1946

1836. ad. ♂ Pipilo fuscus Testis 11 mm. 48 gms.

Village of Sierra de Agua, 7900 ft, 4 mi. N of Perote, Vera Cruz, Mex.

July 7, 1946

1837. ad. ♂ Pipilo fuscus Testis 11 mm. 47 gms.

2 mi. N of Perote, 7800 ft, Vera Cruz, Mex.

July 8, 1946

1838 ad. ♂ Pipilo fuscus Testis 12 mm. 45 gms.

1839 ad. ♂ " " Testis 12 mm. 47 gms.

1840 ad. ♂ " " Testis 11 mm. 46 gms.

1841 " " Testis 11 mm. 43 gms.

July 9, 1946

1842 ad. ♂ Pipilo fuscus Testis 11 mm. 46 gms.

1843 ad. ♂ " " Testis 13 mm. 40 gms.

2 mi. S. of Mitla, 5400 ft, Oaxaca, Mex.

July 15, 1946

AND
KEH. 1844 ad. ♂ Pipilo Testis 10 mm. 47 gms.

1845 ad. ♀ " " Ovary 7 mm. Brood patch. ^{some foll.}enl'd. 42 gms.

1846 ad. ♀ " " ovary 7 mm. Brood patch. Some foll. enl. 47 gms.

1847 ad. ♂ " " Testis 11 mm. 50 gms.

5 mi NE of Cerro San Felipe, 8900 ft, Oaxaca, Mex.

July 16, 1946

1848 ad. ♂ Diglossa barittula Testis 5 mm.

4 1/2 mi. SE of Oaxaca, 5400 ft, Oaxaca, Mex.

July 16, 1946

1849 ad. ♂ Pipilo Testis 10 mm.

10 mi. SE of Oaxaca, 5200 ft, Oaxaca, Mex.

July 17, 1946

1850. ad. ♀ Pipilo Ovary 4 mm.

9 mi. S. of Tamazulapan, 7100 ft, Oaxaca, Mex.

July 17, 1946

1851. ad. ♂ Pipilo fuscus Testis 12 mm.

1 mi. E of Omilteme, 7400 ft, Guerrero, Mex.

July 21, 1946

1852. ad. ♀ Lepidocolaptes affinis Ovary 5 mm. 35 gms.

1853. ? Cyanocitta stelleri 101 gms.

July 22, 1946

1854. ♂ Dryobates ~~fuscus~~ villosus Testis 5 mm. 47 gms.

1855. " " " " 41 gms.

1856. ad. ♀ Trogon ~~texensis~~ mexicanus Ovary 6 mm. Brood Patch. L.F. 2 mm. 65 gms

1857. ♂ Strix varia Testis 6 mm. 707 gms.

2 mi. S of Ventadecarpio, 7250 ft, Mexico, Mex.

July 25, 1946

1858. ad. ♂ Pipilo fuscus Testis 8 mm.

1859. ad. ♀ " " Ovary 13 mm. J. F. 6 mm.

1860. ad. ♀ " " Ov. ent. = 12 mm. L. foll. = 3 mm.

1861. ad. ♂ " " Testis 11 mm.

1862. ad. ♂ " " Testis 10 mm.

4 mi. W of Salazar, 9500 ft, Mexico, Mex.

July 26, 1946

1863. ad. ♂ Pipilo fuscus Testis 9 mm. 48 gms.

1864. ad. ♂ " " Testis 11 mm. 49 gms.

1865. ad. ♂ " " Testis 14 mm. 50 gms.

4 mi. W of Salazar, 9500 ft, Mexico, Mex.

July 26, 1946

1866. juv. ♂ Pipilo fuscus Testis 3 mm. 45 gms.

July 27, 1946

1867. ad. ♀ Pipilo fuscus Brood patch Ovary = 7 mm. L.F. 1 1/2 mm. 43 gms.

1868. ad. ♀ " " ovary 6 mm. Brood patch. 39 gms.

1869. ad. ♂ " " Testis 11 mm. 45 gms.

1870. juv. ♂ " " Testis 4 mm. 45 gms.

Real de Arriba, 5850, Mexico, Mex.

July 27, 1946

1871. ♂ Pipilo fuscus Testis 3 mm.

Temascaltepec, 5500 ft, Mexico, Mex.

July 28, 1946

1872. ♂ Pipilo fuscus Testis 4 mm. 44 gms.

July 29, 1946

1873. ad. ♂ Pipilo fuscus Testis 12 mm. 43 gms.

1874. ad. ♂ " " Testis 11 mm. 44 gms.

Real de Arriba, 5850 ft, Mexico, Mex.

July 29, 1946

1875. juv. ♂ Pipilo fuscus Testis 1 mm. 45 gms.

1876. ♂ " " Testis 4 mm. 41 gms.

Temascaltepec, 5500 ft, Mexico, Mex.

July 29, 1946

1877. ad. ♀ Pipilo fuscus Brood Patch Yolk formed = 7 mm. Breeding 43 gms.

1878. ? " " 39 gms.

1879. ♂ " " Testis 1 mm. 44 gms.

1880. juv. ♂ " " 39 gms.

1881. ad. ♂ " " Testis 10 mm. 45 gms.

Temascaltepec, 5500 ft, Mexico, Mex.

July 29, 1946

1882. ♂ Pipilo fuscus Testis $1\frac{1}{2}$ mm. 43 gms.
5 mi. SE of Zacapu, 6750 ft, Michoacan, Mex.

July 31, 1946

1883. ad. ♂ Pipilo fuscus Testis 8 mm.
5 mi. NW of Quiroga, 7000 ft, Michoacan, Mex.

1884. ad. ♂ Pipilo fuscus Testis 9 mm. 7700 ft,
8 mi. NW of San Gregorio (14 mi. SE of Patzcuaro), Michoacan, Mex.

1885. im. ♂ Pipilo fuscus Testis 3 mm.

1886. ad. ♂ " " Testis 8 mm.

2 mi. SE of Patzcuaro, 7700 ft, Michoacan, Mex.

Aug. 1, 1946

1887. ad. ♂ Pipilo fuscus Testis 5 mm.

1888. ad. ♂ " " Testis 6 mm.

1889. ad. ♂ " " Testis 8 mm.

1890. ad. ♂ " " Testis 12 mm.

1891. juv. ? " " _____

1892. juv. ♂ " " Testis 4 mm.

1893. ad. ♂ Tovia curvirostra Testis 4 mm.

2 mi. NE of Zacoalco, 4550 ft, Jalisco, Mex.

Aug. 3, 1946

1894. ad. ♂ Pipilo fuscus Testis 14 mm. 43 gms.
15 mi. W of Sayula,

Sierra de Tapalpa, 7450 ft, Jalisco 7450 ft, Jalisco, Mex.

1895. ad. ♂ Pipilo fuscus Testis 2 mm. 44 gms.

Aug. 4, 1946

1896. juv. ? Pipilo fuscus 44 gms.

1897. ad. ♂ " " Testis 7 mm. 41 gms.

Sierra de Tafalpa, 15 mi. W of Sayula, 7450 ft, Jalisco, Mex.

Aug. 4, 1946

1898. ad. ♂ Pipilo fuscus Testis 12 mm. 43 gms.
 1899. juv. ? " " 36 gms.
 1900. ad. ♂ " " Testis 10 mm. 42 gms.
 1901. ad. ♂ " " Testis 11 mm. 45 gms.
 1902. juv. ? " " 43 gms.
 1903. ♂ Heleodytes ^{jocosus} ~~jularis~~ Testis 2 mm. 32 gms.

Aug. 5, 1946

1904. ad. ♂ Pipilo fuscus Testis 11 mm. 46 gms.
 1905. ad. ♂ " " Testis 9 mm. 41 gms.

Ciudad Guzman (= Zapatlan), 5100 ft, Jalisco, Mex.

Aug. 6, 1946

1906. ad. ♀ Pipilo fuscus Large yolk formed
 1907. ad. ♂ " " Testis 11 mm.
 1908. ad. ♂ " " Testis 10 mm.

2 mi. NE of Zacualco, 4550 ft, Jalisco, Mex.

1909. ad. ♂ Pipilo fuscus Testis 9 mm.

Sayula, 4700 ft, Jalisco, Mex.

1910. ad. ♂ Pipilo fuscus Testis 12 mm.

6 mi. SE of Zacualco, 4500 ft, Jalisco, Mex.

1911. ad. ♂ Pipilo fuscus Testis 10 mm.

4 mi. SW of San Juan de Los Lagos, 6200 ft, Jalisco, Mex.

Aug. 7, 1946

1912. ad. ♂ Pipilo fuscus Testis 11 mm.

Journal

Berkeley, Alameda Co. Calif. to Laredo, Texas

June 22 - June 27, 1946

Left Berkeley at 11:15 a.m. with Charles G. Sibley. Drove south and stopped at Bakersfield, Kern Co., Calif. the first night. Stopped at Phoenix, Arizona the night of June 23, 1946. Stopped at Sierra Blanca, Texas, the night of June 24, 1946. Arrived at Laredo, Texas, at about 9 p.m. the night of June 25, 1946. On June 26, we inquired of a U.S. Customs Official the proper way to arrange for permits to carry our guns & ammunition into Mexico. The Customs official referred us to Señor Javier Orsonio, the Mexican Consul in Laredo, Texas. We obtained an interview with Sr. Orsonio and told him why we were going to Mexico, and that we did not as yet have our collecting permits in hand. Sr. Orsonio gave us a letter to the Commandante of the Military Garrison (Guarnicion de la Plaza) in Nuevo Laredo, Mexico. We took our letter to the Commandante, Brigadier General Gustavo Arevalo Vera. After a wait of about an hour and a half, the General called us in to his office and gave us a letter to the Chief of the Mexican Customs, directing him to allow us to pass with 2 Shotguns and 1500 rounds of ammunition. The General was rather

Berkeley, Alameda Co., Calif. to Laredo, TexasJune 26, 1946

perturbed about the large quantity of ammunition we wished to take in, but finally gave us the permit when we explained that the bulk of the shells were low caliber dust shot shells for collecting birds. We were treated in a very considerate and courteous manner, although we were told by the General that he would not have issued the permit had it not been for the letter from the Mexican Consul. We spent the rest of the day arranging for Mexican insurance on the truck, and making last minute purchases. Arose early the a. m. of June 27, 1946, went through the American customs at 6:10 a. m., and proceeded to the Mexican Customs, where we had a very easy time. Left Nuevo Laredo, Tamaulipas, Mexico at 6:30 a. m.

Nuevo Laredo, Tamaulipas, Mexico to Valles, San Luis Potosi, MexicoJune 27, 1946

Left Nuevo Laredo at 6:30 a. m. and arrived at Valles at 9:10 a. m., stopping at the Palm Courts. The following notes pertain to the roadside terrain between Monterrey, Nuevo Leon, Mexico and Valles, San Luis Potosi, Mexico:-

The mountains which are first seen a few miles north of Sabinas Hidalgo are

Nuevo Laredo, Tamaulipas,

Monterrey, Nuevo Leon, Mexico to Valles, San Luis Potosi, Mexico

June 27, 1946

covered with low scrub, and from the road no tree growth could be observed on the east-facing slope. At this point the roadside vegetation is rather heavy, identifiable plants including tree yuccas, mesquite, desert ironwood, and tuna cactus. Cuesta de Mamilique is a long, fairly steep grade approximately 25 mi. north of Monterrey, Nuevo Leon. The mountains over which the road leads are sedimentary in nature. The vegetation is xerophytic scrub. Altimeter reading at the crest of the Cuesta was 2100 feet. The mountains a few miles south of Monterrey come nearly to the edge of the road. The range west of the road is the main Sierra Madre Oriental, and is very high and sheer, sparsely vegetated on the east-facing slopes. The range on the east of the road is a spur of the main mountain mass, and although quite steep, is not so high nor rugged as the main range. The spur range, on the west-facing slope, is uniformly clothed with a low, scrubby vegetation. The crest of the east-facing slope of the main Sierra Madre Oriental seems to support a fairly heavy tree growth. These mountains are topped with clouds, and apparently the mountain tops get a high precipitation. Hence the forests. Altimeter reading 5 mi. south of Monterrey = 1850 feet. Arroyo Cristales is

Nuevo Laredo, Tamaulipas, Mexico, to Valles, San Luis Potosí, Mexico

June 27, 1946

18 mi. South of Monterrey, elevation 1500 feet. It is a small stream, bordered by Taxodium mu-
ronatum and some deciduous trees (sycamores, walnuts, etc.). Birds noted here: - Sulphur-
bellied Flycatchers building a nest, Hooded Ori-
ole, Boat-tailed Grackle (including 1 ♀ with insect in bill), Bewick Wren⁽¹⁾, Black Phoebe⁽²⁾, Yellow-billed Cuckoo⁽¹⁾, and Vireo sp. (pro-
bably flavoviridis) feeding young. 25 miles South of Monterrey some oaks were noted near the edge of the road. At this point the eastern range (spur of Sierra Madre Oriental) begins to drop out, whereas the main mountain mass to the west of the road is still high and rugged, with cloud-topped peaks. The country south of Monterrey is agricultural, with orange groves and pear orchards pre-
dominating. The arroyos support a heavy tree growth, mostly Sabina type. 45 miles South of Monterrey noted a Green-backed Goldfinch. 113 mi South of Monterrey at Km marker 799 noted Brown Jay flying across the road. At Km marker 799 (130 miles South of Monterrey) noted White-fronted Dove. Road-side vegetation still a mesquite association. At Kilometer marker 728, 158 miles South of Mon-

Nuevo Laredo, Tamaulipas, Mexico to Valles, San Luis Potosi, Mexico

June 27, 1946

terry, larger trees were noted in the mesquite - Cactus scrub. Brown Jays became much more common and were frequently seen flying across the road. Bananas and pajayas were noted in cultivation. Audubon Oriole first noted 16.5 miles south of Monterrey. First Sennett Thrasher noted 11 miles south of Ciudad Victoria. 12.5 miles south of C. Victoria we crossed the tropic of Cancer. Roadside vegetation still mesquite - cactus. Altitude 1150 feet. First Red-billed Pigeon and Red-eyed Cowbird noted 19 miles south of Victoria. 27 miles south of C. Victoria noted a coyote run across the road. Coloration appeared quite fulvous. 27.5 miles south of C. Victoria, at foot of Mesada Llera, elevation is 1175 feet. Country vegetation changing to an acacia - mesquite association, with acacia predominating. Densely foliated, flat-topped trees of medium height. 30 ± Amazona viridigenalis noted. The note of these birds is a bubbled "oww", much like the human "ow". 29 miles south of C. Victoria, Mesa de Llera, elevation 1650 feet. Open scrub - Cactus association. 2 coyotes seen crossing road 34 miles south of C. Victoria. They appeared smaller and grayer than the one previously seen. 36 mi. south of C. Victoria, a ♂ + ♀ Red-eyed Cowbird were noted by the roadside.

Nuevo Laredo, Tamaulipas, Mexico to Valles, San Luis Potosi, Mexico

June 27, 1946

45 mi. South of C. Victoria, between La Gloria and Galeana, altitude 1200 feet, the heavy tropical forest begins. We stopped at a point 46 mi. South of C. Victoria, elevation 1150 feet and noted: - Ortalis vetula (1 pair in a tree), Alta Mira Oriole, Groove-billed Ani, Tyrannus melancholicus. At least 5 Tinamous were heard whistling from the heavy undercover beside the road. 49 mi. S. of C. Victoria a ♂ Red-eyed towhee, with expanded ruff, was seen hovering above a ♀, presumably in some sort of nuptial flight. 57 mi. South of C. Victoria, elevation 500 feet, the dense palm bottoms were first seen from the road. 69 mi. South of C. Victoria, 400 feet elevation, we hit a Mockingbird. Examination of the bird showed the plumage to be badly worn. 76 mi. South of C. Victoria, there were extensive sugar cane fields on both sides of the road. At this point several Sturnella magna were heard singing. Darkness fell shortly afterwards, and we proceeded to the palm courts in Valles without further observations. Valles, San Luis Potosi, Mexico to Mexico, D. F.

June 28, 1946

Stopped at a point 5 miles South of Valles, elevation 250 feet. Dense deciduous vegetation and Palmetto scrub by roadside. Birds noted at this point: - Grand Flycatcher, Yellow-green Vireo,

6
Valles, San Luis Potosi, Mexico to Mexico, D.F.

June 28, 1946

7)
Yellow-billed cuckoo (heard), Tinamou (heard),
Brown jay, Couch Kingbird, Green Kingfisher (near a
small stream), Dryobates, Alcedo, American Egret,
Hooded Oriole, and Green jay. The Yellow-green
Vireo is a very active bird, and seems to move
very rapidly, Warbler fashion, through the trees.
Its song is similar to that of the Red-eyed Vireo,
but the separate phrases are given much more ra-
pidly. The note of the Couch Kingbird is a harsh,
drawled "Terrrrr". Also noted at this point
was a large Scissor with bright rufous under-
parts, in a tree. 7 mi. south of Valles we noted
our first Blue-black Grassquit and Sharp-shinned
Shrike, and heard a Yellow-green Vireo singing.
This Vireo is quite common, and can be heard
singing by the roadside at frequent intervals. 10
miles south of Valles, we ran into heavy fog along the
road. The fog belt lasted about 5 miles. 25 miles
south of Valles an adult Grand Flycatcher was
seen feeding a young bird. 28 miles south of
Valles we noted our first Turdus Grayi. It
was perched on a telephone wire. 30 miles
south of Valles a Sitta (grandis?) was seen
flying across the road. Blue-black Grassquits
and Sharp-shinned Shrikes were common along
this stretch. They were perched on the telephone

Valles, San Luis Potosi, Mexico to Mexico, D. F.

June 29, 1946

wires. At a point 42 miles south of Valles, a patch of virgin jungle was noted, composed of large deciduous trees bearing epiphytic plant growth, and dense understory vegetation. The country all through here was undoubtedly like this before it was cleared for agricultural and stock-raising purposes. 2 mi. south of Tamazunchale, a small flock of Green Parakeets was seen flying above the road. 14 miles south of Tamazunchale we crossed the San Luis Potosi - Hidalgo line. 18 mi from Tamazunchale, at 2800 feet, is still in tropical vegetation. At 22 miles south of Tamazunchale, 3800 feet, we noted a 10°F drop in temperature from the town of Tamazunchale. The trees appear to be of a larger growth form, and several trees resembling Liquidambar styraciflua were noted. Bananas were noted under cultivation by the roadside. 32 miles south of Tamazunchale, 4900 feet, several Spinus notatus were noted by the roadside. 36 miles south of Tamazunchale, 5900 feet, Ravens were seen flying by the roadside. 47 miles south of Tamazunchale, 5250 feet, the first pines were seen by the roadside, and others were seen growing down the slope from the road. ~~At this point~~ At this point a bright ♂ Tianis olivacea was seen. The bird was singing from the top of a tree, the song being a fine, dry

Talles, San Luis Potosi, Mexico to Mexico, D.F.

June 28, 1946

trill. At the town of Tuesta Colorado, the earth appeared very red. Temperature was 80°F . Just beyond the town a madrone and several cypresses (not Taxodium) were noted. 8 miles south of Jacala, in pine-oak country, a Red-tailed Hawk with a clear, white breast was noted sitting on a dead stub. 10 miles south of Jacala, a white-eared Hummingbird was noted perched on a telephone wire by the side of the road. 20 miles south of Jacala 2 juncos were noted in the finches. 30 miles south of Jacala the finches and oaks drop out, and open grassland, and terophytic vegetation begins. Maquay, tuna and organ-type Cactus are common. This high desert extends for several miles on either side of the road. Jimazan, altitude 5650 feet, is in this high desert country. Temperature at Jimazan was 85°F . 19 mi. south of Jimazan a heavy cloudburst was noted about 3 miles west of the road. Grass at this point is greener and more widespread than heretofore noted, and there are more trees. This stretch of land is probably irrigated. At Actopan Barn swallows were noted flying above the road. We arrived at the city limits of Mexico, D.F. at about 6:00 p.m. and obtained a room at the Guadalupe Courts, just off the main highway near the city limits, on Calzada Triunfo.

Mexico, D.F.

June 29, 1946

Drove into the downtown district at about 8 a.m. and had breakfast. Thence to the American Embassy where we picked up mail. Then drove to the office of Caza y Pesca, where we talked to Sr. Macias, who grants scientific collectors' permits. Sr. Macias told us that our permits had been mailed to us at the University of California on June 8, so they are probably on the way back to us at this time. Then put the truck in Gran Motor, S.A., on the ^{Paseo} ~~Avenida~~ de la Reforma, for a lube job and oil change. While waiting for the truck, we walked downtown and visited Sanborn's, which is a tourist trap, but a huge set-up, including dining-room, soda-fountain, clothing store, jewelry store, drug store, tobacco store, etc. We ate at a small cafe nearby. Went back + picked up the truck, and drove to the Azteca Courts, where Walter Dalquest + his wife stayed while in Mexico City. The proprietor told us that Walt had left a few days before with a big bunch of specimens from Veracruz, headed for Laredo, Texas, but that he was merely going to take the specimens across the border + ship them to Univ. of Kansas, and then return to Mexico City. We left a note for him, and then returned to the Graceland Courts, where we wrote letters and rested until supper-time.

Mexico, D. F. to 6 mi. N. of Pachuca, 9600 ft, Hidalgo, Mex.

June 30, 1946

Left Mexico, D. F. at about 7:15 a.m. and drove north on Carretera Nacional No. 1, until we reached the turn-off to Pachuca. We drove to Pachuca, and then east to Real del Monte, an old Bullock locality, the type locality of Pipilo macrourus macrourus and P. maculatus maculatus. Drove north out of Real del Monte looking for fir-country between Real del Monte and El Chico, but about 2 miles out of town we ran into laborers working on the road, and they told us that the road was impassable. We returned to Real del Monte, and asked for the road to El Chico, but made wrong turn and went past Real del Monte on the road to Ormitlan. We stopped and asked directions, and were told that the El Chico turn-off lies between Real del Monte and Pachuca, so once again we returned to the town and took the road back toward Pachuca, finding the El Chico turn-off heading north a few miles west of Real del Monte. The road toward El Chico passes on an upward grade through oak and chaparral, and in about 2 miles through oak-fir forest. At about 2 1/2 mi. from the turn-off, elev. 9225 ft, the forest is mostly fir, with juniper understory. About 4 1/2 mi. from the turn-off we entered a national park. There was a guard station at the entrance, and we spoke to the guard for some time. He told us that there was a nice camp ground about 3 kilometers

6 mi. N of Pachuca, 9600 ft, Hidalgo, Mex.

June 30, 1946

west on a road turning off just beyond the guard station. We drove about $1\frac{1}{2}$ miles west on the road but were stopped by an inundated section of the road, so stopped and walked a few hundred yards to the camp-ground, which the guard had called "Las Salanillas". Just above the camp-ground are several jagged columns of rock, called "Peñas de la Ventana". We heard and saw several thrushes, probably Catharus, Black-headed Grosbeaks, one of which was killed by an Indian boy with a sling shot and given to us, many Robins, and several large and brilliant-green Hummingbirds. Returned to the truck and turned off the road, proceeding about a hundred yards down a grassy meadow bordered by Abies religiosa with a dense Juniperus understory. The terrain here consists of fairly dense stands of second-growth Abies, with scattered patches of Juniper growing beneath the firs. The wooded terrain is broken by numerous open, grassy meadows. The grass is quite green, but close-cropped, as there is much livestock in the area. We saw several herds of cows, and flocks of sheep and goats. Plants noted include Lupinus, Sisymbrium, Bee-plant, Baccharis, scattered Madroño, small patches of oaks, Elephant-heads, a red Pentstemon which is very common, and small cacti around the "Peñas".

6 mi. N of Pachua, 9600 ft, Hidalgo, Mex.

June 30, 1946

It started to rain moderately just after we pitched camp at about 1:30 p.m. The air temperature at this time was 47°F. The rain continued until about 4 p.m., at which time Sibley went hunting for about 1 1/2 hours. The commonest birds I encountered were Junco phaeonotus and Parus melanotis. Both of these birds responded to Pygmy Owl calls. Several flocks of P. melanotis were encountered working through the firs. The Juncos we seen around Juniper patches in the open meadows, and also in the Juniper under the firs. Robins were common, and were seen flying from fir to fir. Pygmy Owl calls would start several calling from the firs on almost every occasion. Two flocks of Steller Jays were seen. Hummers were seen feeding on Gentian. Thrushes (Catharus?) were heard calling and singing from the Juniper scrub and also from the firs. The song is short, clear, and definitely thrush-like, but the call-note very closely resembles that of P. maculatus around Berkeley. On one occasion, 2 birds responded to my Owl calls, but remained well up in the firs. The call was a jay-like, twangy "Skree", and I finally shot one of the birds to see what it was. It turned out to be P. maculatus. Returned to camp around 5:45, ate supper, & wrote notes. Rain fell from 6 p.m. past 9 p.m.

6 mi. N of Tachuca, 9600 ft, Hidalgo, Mex.

July 1, 1946

Hunted from 6:30 a.m. to 9:30 a.m. The least productive terrain worked was the fir-bordered margins of the open grassy meadows. Most of the birds I saw were in firs along trails, or around clearings in the fir-forest where there was a low scrub of Juniper and sapling firs, with a margin of second-growth firs. Such clearings have scattered patches of a red Pentstemon growing in them, and are alive with large, green-backed, blue-throated hummingbirds, feeding and fighting. This large hummer has a very sharp "te-dick" note, which is characteristic of the woodland clearings. Junco phaeonotus was found commonly everywhere, from the tall firs to low patches of Juniper in the grassy meadows. Several flocks of Black-eared Bush-tits were seen working through the firs. The thrush with the spotted-trohee-like call-note and the clear, musical song is Catharus occidentalis. One was collected from a dead limb about 10 ft above ground in the heavy fir forest. It was a breeding ♀, with a broad patch, expanded oviduct, and an egg 23 mm. long with a partially formed greenish-blue shell. Two pairs of Pipilo maculatus were seen, the first in a tall fir tree. The birds flew into the tree and perched about 40 ft above the ground. The second pair was seen perched in a

6 mi. N of Pachua, 9600 ft, Hidalgo, Mex.

July 1, 1946.

small fir, about 15 ft from the ground. A Junco phaeonotus was collected while it was foraging about 30 ft up in a large fir at the edge of a clearing. A small Empidonax (difficilis?) was taken from its perch about 10 ft from the ground in a tall fir at the edge of a road. 2 Red Warblers responded to Pygmy Owl calls, but remained from 30-60 feet up in the firs, moving so actively that I could not get a shot at them. Their call-note was a sharp "tsip," much like that of an Audubon Warbler. Ate lunch & skinned in p.m. Started to hunt at about 4:30 p.m. but it started raining at about 5:00 and I returned to camp.

July 2, 1946

Hunted from 6:30 to 10:00 a.m. About 1/2 mile NW of camp found a large woodland clearing with numerous patches of red Lentstemon. The clearing was alive with Colibri thalassinus, and one was collected as it hovered in the air while feeding on the Lentstemon. These large hummers are often seen perched in the firs, sometimes choosing perches 25 and 30 feet above the ground. They are one of the most abundant birds of the region, being scattered along trails and roads, and reaching their maximum numbers in woodland clearings. The sharp "te-click" notes

6 mi. N of Tachua, 9600 ft, Hidalgo, Mex.

July 2, 1946

described under my notes of July 1, 1946 belongs to this species. Proceeding west, I climbed about 200 feet up a ridge, where the firs were scattered, and there was a fairly heavy understory of Baccharis and Ribes. Along this ridge I heard at least 30 P. maculatus singing. The song is quite characteristic - "chip-chip-trrrr". One P. maculatus was seen on a large rock about 15 feet high, but the bird flew before I got a shot. On the ridge I collected a Red Warbler, one of a pair foraging about 30 feet up in a fir, and a Black-headed Grosbeak, perched on the top of a fir about 50 ft high. On the way back down the ridge I saw a Red Warbler foraging in the Baccharis scrub, the first individual of this species I had seen outside of the firs. Cyanocitta stelleri was heard calling, and a pair was seen a short time later flying over the tops of the tall firs. I followed a trail along the base of the ridge, paralleling a small stream. 2 Brown-throated Wrens were collected, one from a fir sapling and the other from low Juniper scrub. They are quite common in patches of scrub, and their song, resembling that of a House Wren, is frequently heard. These birds respond quickly to owl calls + squeaks, and move through the

6 mi. N of Pachuca, 9600 ft, Hidalgo, Mex.

July 2, 1946

scrub giving rapid series of scolding notes - "chur-chur-chur". Both of the Wrens collected were members of pairs. 2 Canyon Wrens were heard singing from the ridge above the stream. A Tatharus occidentalis was taken from a patch of small firs by the stream. The last bird taken was a Myioborus miniatus, which was foraging actively in the fir tops, about 50 ft above the ground. Junco phaeonotus was seen in all types of habitat during the morning. One Hairy Woodpecker was heard calling from a fir in the dense fir woods. Robins were encountered throughout the morning wherever there were trees.

July 3, 1946

Left camp about 7 a.m. and headed downhill along the road leading south toward Pachuca. At 9250 ft. the road led past a small reservoir with a dam at the south end. This reservoir constitutes a part of the water supply for Pachuca. At this point there were pinos mixed with the firs, and a short ways below the firs dropped out entirely, and oaks started to appear among the pinos. The undercover was mostly Baccharis sp. Crossed a ridge possibly 200 ft high, from which the mountain chain forming the eastern rim of the Valley of Mexico could be seen stretching

6 mi. N of Pachuca, 9600 ft, Hidalgo, Mex.

July 3, 1946

away to the south. At 9000 ft. A second, smaller ridge was crossed, and the small town of Zerezo could be seen about 200 ft. below. This town lies at the base of three slopes which converge to form a basin. The east-facing slope is bare, weathered granite with scattered patches of scrub juniper, and scattered pines and short grass cover along the crest. The south-facing slope has scattered patches of scrub juniper and Baccharis, and a sparse grass cover. The soil is thin, and there are many rocky outcrops. The west-facing slope is similar to the south-facing slope, save that there are a few more corn-fields on the lower slope. The morning's hunting is summarized in the species account of this date for P. fuscus. I headed up-mountain toward camp at about 11:45 a.m., and got completely lost on the way back, arriving at camp at about 3 p.m. During the course of my aimless wandering I shot a P. maculatus close to camp. Birds other than P. fuscus seen below 9300 ft.: Canyon Wren, very common on the arid, rocky slopes. Several birds could be heard singing at one time. Rock-wren. I seen, one of which was a singing bird. Green-backed Goldfinch - abundant in all types of habitat. Hylachnis (leucotis?) abundant wherever there ~~was~~ ^{were} any extensive patches of

6 mi. N of Tachuca, 9600 ft., Hidalgo, Mex.

July 3, 1946.

Scrub, or wherever the undercover under trees was fairly dense. ^{Plagiospiza superciliosa} ~~Ammodramus~~ ~~refertus~~ - several seen in the pines bordering an extensive patch of Baccharis scrub at about 9100 ft. Colibri thalassinus - seen sparingly along the scrub patches with Hylocharis.

July 4, 1946

Came into Mexico City, but were unable to do much because the Embassy and several other places were closed because of the holiday. Spent night at Azteca Courts on northern outskirts of city.

July 5, 1946

Shopped, reorganized our equipment, etc., and stayed at Azteca Courts.

July 6, 1946

Left Mexico, D.F. at about 9 a.m. on Camino Nacional No. 2, headed for Las Vigas. Most of the pertinent information concerning terrain traversed is in species account for Pipilo fuscus, this date.

The only salient geographical feature not mentioned therein is the great, grass-covered plain, flat and windswept, extending for about 12 miles, which starts about 20 mi. NE of the junction of the Mexico, D.F. Orizaba and Mexico, D.F. - Talapa roads. Although the complete lack of cover other than grass and corn make

Mexico, D.F. - 5 mi. E of Perote, 8700 ft, Vera Cruz, Mex.

July 6, 1946

This terrain unsuitable for occupancy by Brown Towhees, the low, Sua-cactus covered knolls bordering the plain appear from the road to be excellent towhee habitat, and probably form a distributional highway around the plain. We went through Las Vigas, past the great lava flow which extends some miles east of Las Vigas. Then returned to the small town of Sierra de Agua, and took the road leading up the mountain called Cofre de Perote. Made camp in the pines, 5 mi E of Perote, 8700 ft, Vera Cruz, Mex.

July 7, 1946

Moved our camp in a.m. a short distance away, where we were not so close to the main up-mountain road. We are camped in a rather heavy stand of second-growth pines. Sierra de Agua is about 3 miles down the slope, and there are grain-fields stretching from Sierra de Agua to a point about 1 mile below camp. In this terrain we have seen Brown Towhees. Weather today was cold and rainy. This morning, before changing camps, we drove nearly to the settlement of Pescados, to an elevation of 9500± ft. The pines continue unbroken as far as we went, and there seems to be little change in terrain on the way up. At one point, we could see the snow-covered peak of the

5 mi. E of Lerote, 8700 ft, Vera Cruz, Mex.

July 7, 1946

Mountain. Tree line appears to be about 500 ft below the peak. The vegetation up to snow-line appears to be either scrub of some type, or seedling pines.

July 8, 1946

Left camp at 7:15 a.m. and walked down to a point 2 mi. N. of Lerote, 7800 ft., where I spent the rest of the a.m. hunting P. fusca. Returned to camp around 2 p.m. The pines extend in long stands down to about 8200 ft., and in between these stands the grain fields extend up to about 8500 ft. Junco phaeonotus was abundant above 8000 ft., being found in the pines, out in the grain fields, and in the Baccharis scrub around the grain fields. Aphelocoma jays were heard but not seen. Flagraospiza superciliosa and green-backed Goldfinches were common all the way down. Skinned in p.m.

July 9, 1946

Hunted howlers in a.m. In the afternoon we went down to Jalapa (Xalapa - Mexican spelling) to get water and supplies. Stayed overnight at the Hotel Salmores.

July 10, 1946

We did not leave Jalapa until about 1:30 p.m.

Jalapa, Veracruz, Mex., to Orizaba, Veracruz, Mex.

July 10, 1946

because of a broken starter which we had repaired. The altitude at Jalapa is 4800± ft. and the road leading NW rises very sharply along the shoulder of the plateau. Jalapa is about midway between the high plateau and the low tropics, although its faunal affinities seem to be tropical. 8 mi NW of Jalapa on C. N. N° 2, alt 5800 ft. we noticed pinus and oaks, and they continued all the way to Perote. We continued through Perote with the idea of going to Chalchicomula. The turn-off to this town is at El Seco, which the natives call San Salvador El Seco. Inasmuch as the road to Chalchicomula looked very poor, and since we had been driving through a very bad dust storm, which apparently continued far along toward Chalchicomula, we decided to take the southern route to Veracruz, stopping around Orizaba (town of). We drove back to the road fork, 26 miles east of the city of Puebla, and were in the dust storm all the way. We were out of the dust at the turn-off, however. ~~7/10 mile SE of the turn-off~~ We drove into the town of Orizaba, arriving there at about 8:00 p.m., and spent the night in the

Jalapa, Veracruz, Mex. to Orizaba, Veracruz, Mex.

July 10, 1946

Hotel de France. About midnight, we were awakened by a fairly severe tremor, which started out mildly, but ended by shaking the hotel until the floors and walls creaked and cracked. These Mexican hotels have everything.

July 11, 1946

Left Orizaba at about 8 a.m. and drove to: - 8 mi. NE of Chalchicomula, 10,350 ft. Puebla, Mex., where we made camp at about 4:00 p.m. Our camp is in a grove of mixed firs and pinos, at the foot of the snowy peak of Mt. Orizaba, to the ~~east~~^{east}. Adjacent to our camp site is a large potato field, and a short distance to the west, down below, are wheat fields. There are many people throughout the woods, as many firewood cutters come up here from Chalchicomula, and from the 3 villages between here and Chalchicomula. The ~~top~~^{top} most village is called San Martin del ^(Ojo de agua) Agua, and has a sawmill, so apparently there is some lumbering taking place here.

July 12, 1946

Upon arising, we found that we had been robbed of most of our cooking utensils during the

8 mi NE of Chalchicomula, Puebla, Mex. - Mexico, D.F.

July 12, 1946

night. Sibley collected some Pipilo ocai and Pipilo maculatus near camp, and then we packed and returned to Mexico City. The road to El Seco is in pretty good shape, and only 19 miles. At El Seco we hit C.N. No. 2 and drove straight to Mexico City, arriving at 6 p.m. Stayed at Lyteca Tourists.
Mexico, D.F.

July 13, 1946

Spent the day around town, shopping, & cleaning out the truck & equipment in preparation for our trip to Oaxaca tomorrow.

July 14, 1946

Left Mexico, D.F. at 8:00 a.m. and arrived at Oaxaca, Oaxaca, Mex. at 5:30 p.m. Put up at Hotel Francia for the night.

July 15, 1946

Drove down to Mitla, some 30 miles away, and went through the Zacatepec ruins there. Then drove out of town & collected Brown Towhees. Returned to Oaxaca, & then drove 2 mi S of the city and turned off on the road to Ixtlan. Drove 36 kilometers along this very sharply rising road, over a crest at 8900 ft & a few miles down the other side, camping in oak country.

July 16, 1946

Hunted P. maculatus in am. Collected one.

10 mi. NE of Cerro San Felipe, 7400 ft, Oaxaca, Mex.

July 16, 1946

Saw about 6, but they were extremely wild, and the one collected was taken at long range with 10's. Then drove back to the crest, 5 mi. NE of Cerro San Felipe, 8900 ft, Oaxaca, Mex. and collected 1 Honeycreeper (Diglossa barbitula), and 2 Pipilo ocai brunescens. Other birds seen included Aphelocoma caerulea, Troglodytes (brunneicollis?), Hylocharis leucotis, Catharus sp., Basileuterus belli. Drove back to Oaxaca, collecting 1 P. f. rufinus ~~4 1/2 mi~~ 4 1/2 mi. SE of Oaxaca, 5400 ft. Spent night in Hotel Francia.

July 17, 1946

Drove 10 mi. S. of Oaxaca in a.m. and hunted 1 Brown Towhee. Then returned to Oaxaca, obtained gasoline + water, and drove to ~~Mexico~~ Puebla, Puebla, where we spent the night. Took 1 Brown Towhee on the way.

July 18, 1946

Drove from Puebla, Puebla to Mexico, D.F. and stayed at Azteca Courts. Spent the day around town. Sibley and I called on Helmut H. Wagner, a professional collector who lives at 216B Avenida Colonia del Valle, + who has sent material to MVZ. We talked to him for some time. He said that he had collected P. rufinus at Tehuacan, but that he did not remember where he had sent the specimens.

Mexico, D. F.

July 18, 1946

He said, however, that he had sold some specimens to William H. Burt, so there may be a possibility that this material is at Am Arbor.

July 19, 1946

Left Mexico, D. F. at about 1:00 p.m. and drove to Mt. Popocatepetl. We passed through Chalco and Amecameca, and drove up the road which takes off 1 1/2 mi. S of Amecameca, and ascends the NW side of Popo. We drove to a height of 12,000 feet, which is just below timber-line. The road going up traverses open fields to about 9500 feet, then passes through mixed pine-fir forest. These pines at lower elevation are long-needed. Above this belt is an area of almost pure fir, and above the firs are dense stands of a short-needed pine. The zacaton, or brush grass, is extensive from about 10,000 feet on up. We flushed 4 Romerolagus from this grass cover. We went back down the road and made camp on: - N.W. side of Mt. Popocatepetl, 9700 ft. Mexico, Mex.

NW side of Mt. Popocatepetl 9700 ft. Mexico, Mex.

July 20, 1946

Hunted from 9:30 - 9:30 a.m. Shot 1 P. maculatus and missed 2 others. They are fairly common, and could be heard calling & singing. But are ra-

NW Side of Mt. Tzucatepec, 9700 ft, Mexico, Mex.

July 20, 1946

ther hard to find in the heavy undergrowth.
Other birds noted: - Hylocharis leucotis, Seto-
phaga pida, Troglodytes brunnicollis, - Basi-
leuterus belli, Ergaticus ruber, Mexican cross-
bill (heard only), Black-eared Bush-tit (heard only),
Button Vireo, Robin, Catharus sp. (heard only),
Sparrow Hawk, Saw-whet Owl (at least 2 heard
the night of July 19 + early a.m. of July 20). Broke camp
at about 10 a.m. On the way out, at 9200 ft,
by a field extending into the pines + firs, 1
P. fuscus was noted. 9 mi. S of the Pogo
turn-off, the altitude was 7000 ft and we
were still on the plateau. 2 mi. farther on
the drop-off began. Altitude was 6400 ft +
occasional pines were noted by the side of
the road. 23 mi. S of the Pogo turn-off, at
Cuantlixa, altitude was 4400 feet. At this point
we took the turn-off West toward Cuernavaca. 5
mi. W of Cuantlixa, sugar-cane fields were noted
along the road. 9 mi. W of Cuantlixa, at Yantepec,
elevation 3900 ft, the country was arid tropical, with some
mesquite, maguey, yucca, + huma cactus. 4 1/2 mi W of
Yantepec, the road starts to rise, and the uncleared
hillsides are heavily vegetated with trees + ~~sub~~ shrubs.
Where the hillsides have been cleared, the substrate
is rocky + gravelly, soil thin, and grass cover sparse.

Mt. Popocatepetl, Mexico, Mex. to Chilpancingo, Guerrero, Mex.
July 20, 1946

18 mi. W of Yantepec we reached Cuernavaca, el. 4700 ft.
 12 mi. S. of Cuernavaca we turned off the main road and ate lunch at the exact location where Storer, Sibley and I camped for several days in 1941. Continued on over the route to Taxco, down to Iguala, and over the Rio de las Balsas, el. 1700 ft. Then up to Chilpancingo, el. 4100 ft. The country all the way from Cuernavaca to Chilpancingo is semi-tropical in nature, and apparently unfit for occupancy by Brown Towhees. At Chilpancingo, we stayed overnight at an auto court. After supper Chuck and I called on Mr. and Mrs. W.W. Brown. We had visited them in 1941 at the Hotel Mexico, where they are still living. Mr. Brown has been in Chilpancingo 9 years now. He remembered us well from our previous visit. I asked him if he had ever collected Brown Towhees during his 9 years in Chilpancingo, and he said that he had taken one rutilus by the river about 1 mile out of town. The specimen is now in the collection of the late Milton S. Ray. Mr. Brown seems keen and enthusiastic, but his wife is in very poor health and is completely immobilized.

July 21, 1946

Left Chilpancingo at about 8 a.m. and drove west into the Sierra Madre del Sur to Ornel-

Mr. Brown said that he was sure that this bird was a straggler.

Chilpancingo, Guerrero, Mex to 1 mi. E of Ormiteme, 7400 ft,
Guerrero, Mex.

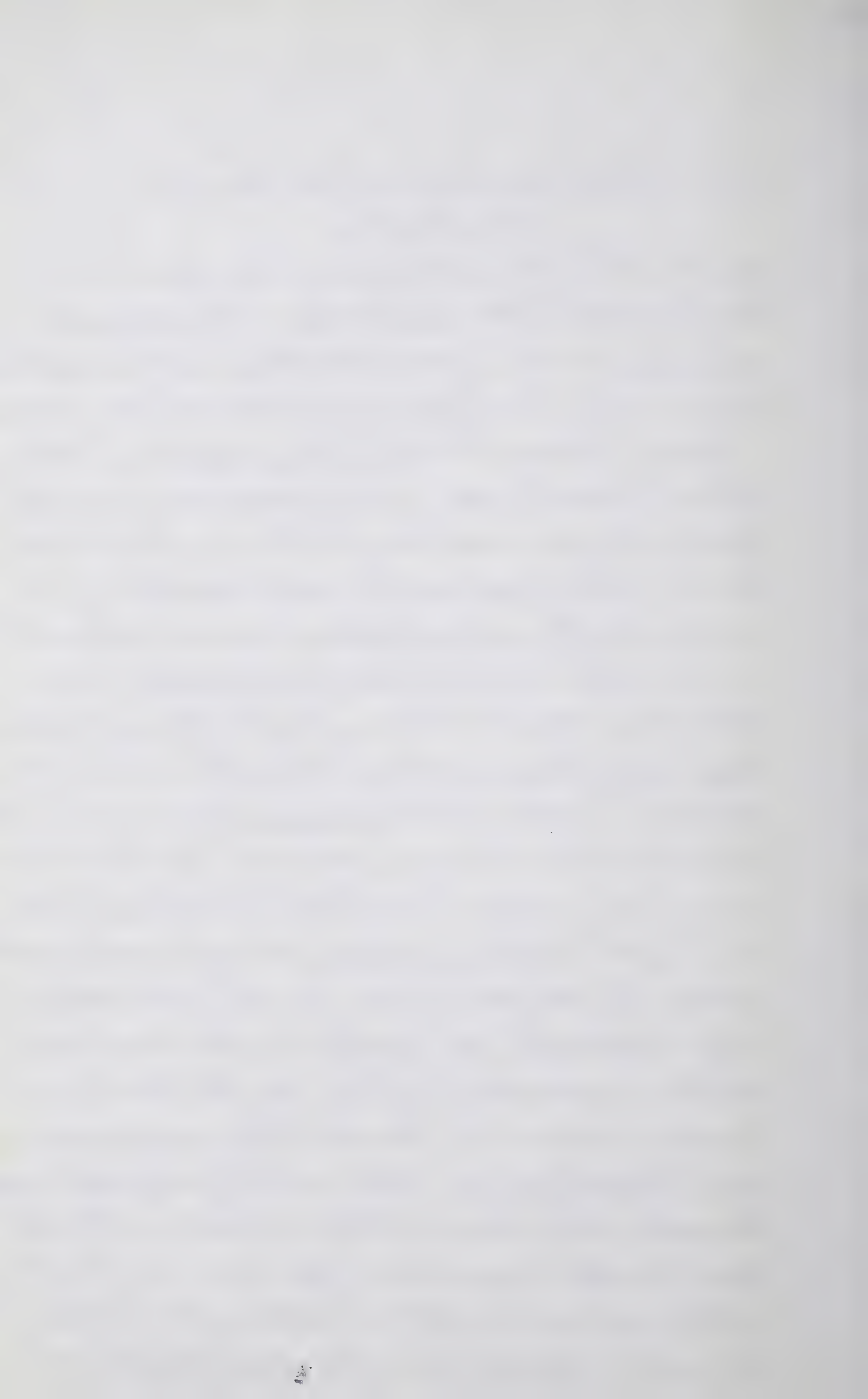
July 21, 1946

June, a distance of some 18 miles. The road was very slick due to the rains of the previous night, and we had to use chains to get through. 9 mi. W. of Chilpancingo, el. 5300 ft, the vegetation was a mixed growth of pinos, palms, mimosa, junipers and oaks. 11 1/2 mi. W. of Chilpancingo, 5900 feet, there was open oak forest, with scattered mimosa, juniper and maguey. Palms were seen in some numbers growing on the rocky, exposed slopes above the oak forest. At Ormiteme, 6900 ft, there is a good-sized sawmill and its accompanying collection of workers' houses. We spoke to the mill superintendent, who mentioned a young man and an older man who had collected at Ormiteme not so long ago (Scopold + Lamb?). Upon his advice we took the road leading east of town, and made camp 1 mi. E of Ormiteme, 7400 ft, Guerrero, Mex. The woods about camp are mostly tall oaks, with scattered pinos. Higher up on the slopes above camp the forest is predominantly of pinos, and there are pires, or a different type of pine, on the ridge tops. This whole area is the scene of extensive logging operations, and there are evidences of cutting all through the woods. Understory vegetation of scrub oaks, small oaks and shrubs is fairly dense on the slopes

1 mi. E. of Omilteme, 7400 ft, Guerrero, Mex.

July 21, 1946

and in the swales at the foot of the slopes. Went hunting and took 1 Pipilo ocai, 1 Lepidocolaptes affinis, and 1 Cyanocitta stelleri, all from oaks near camp. The P. ocai give the same high-pitched "Peewee" note as the P. o. brunescens we collected in Oaxaca. I ran into 2 more groups of these birds but was unable to find them in the underbrush. Steller jays are abundant and very wary. California Woodpeckers are abundant in the oaks. Saw 4 Allied Woodhewers, one group of 3, and a solitary bird hatching up an oak woodpecker fashion. This latter bird was collected. 2 Troglodytes mexicanus were seen in the oaks. One was uttering a series of low hoots. One very flashy cadmium yellow & black Oriole was seen. Noted 1 Scotaphaga picta feeding on ~~a~~ insects(?) which it was gleaming from the face of a large cliff. Troglodytes brunnicollis is abundant here, and numbers of them fly from the brush in response to squeaks. Several Sitta carolinensis and Brown creepers were noted foraging through the oaks. After dark I took a walk down the road, and heard a tremendous Hyla chorus. At least 6 different notes could be made out. The oaks here ~~are~~ support a fair Bromeliad growth and there may be Oedipus present.



1 mi. E. of Omilteme, 7400ft, Guerrero, Mex.

July 22, 1946

Hunted from 7:15 a.m. to 11:30 a.m. Heard P. orai in a swale a short distance west of camp, but could not locate them. Then took a road that rose about 200ft, and led into a path that followed a ridge-top. Vegetation along the ridge top was primarily pines, with a few oaks, and an understory of magueys, shrubs, and small palms. The ridge was quite narrow and dropped off sharply on both sides. There were numerous rocks, both on the ridge-top and the adjacent slopes. No P. orai were heard above the swale at the foot of the ridge. Saw several of the orioles I had noted yesterday, but they were very wary and I could not collect one. Their song is a very distinctive, broken series of pure, whistled notes, varying in pitch - " - - - -". They utter a harsh, jay-like note when alarmed. While pursuing an oriole, I flushed 2 large owls from the top of a pine tree. They separated and flew to adjacent pines a few yards away. One was taken, & proved to be Strix varia (Sartorii?). A ♀ Trogon mexicanus was taken from an oak. Attention was attracted to it by the hooting notes it gave: - cuk, cuk, cuk-cuk-cuk-cuk-cuk. Several Western ^(?) Bluebirds were seen, and 1 Piranga (flava?). California Wood-

1 mi. E. of Ormiteme, 7400 ft, Guerrero, Mex.

July 22, 1946

peckers and Steller Jays were abundant in the oaks at lower levels. Several Brown tree-pers and White-breasted Nuthatches were seen in the oaks. 1 Hylocharis leucotis was noted. 2 Hairy Woodpeckers were seen in the oaks at the foot of the ridge. Both were taken, but one met with an unfortunate accident during the process of skinning and was discarded. One large pigeon was heard, but not seen. Troglodytes Brunneicollis was exceedingly abundant at all levels, probably the commonest bird in the area. At one time I had at least 10 flying about the understory vegetation in response to squeaks. Most of them were within 15 feet of me, & 2 within 5 feet. Catharus sp. was heard but not seen. Several tree squirrels were seen but not shot. Skinned in p.m. Bats were heard flying about camp, & Sibley saw several large bats flying high & straight over the tree-tops. The Hyla were in voice again tonight.

July 23, 1946

Returned from Ormiteme to Mexico, D.F. and stayed at Azteca Courts.

July 24, 1946

In Mexico City, having car repaired, etc.

Mexico, D.F.July 25, 1946

Drove from Mexico, D.F. about 15 miles to La Venta, on the road to Toluca, looking for a place to collect P. fuscus. We could find no place to hunt in this section, so returned to Mexico, D.F. and drove North of the city to a point 2 mi. S. of Venta de Cerpio, 7250 ft, Mexico, Mex. where we collected 5 P. fuscus. Returned to Mexico, D.F. and stayed overnight at the Guadalupe Courts.

July 26, 1946

Left Mexico, D.F. at about 10 a.m. and retraced our route of the previous day along the road to Toluca (Camino Nacional 4), driving to the town of Lerma, Mexico, Mex. Then drove back and made camp at a point 4 mi W of Salazar, 9500 ft, Mexico, Mex. Spent the rest of the p.m. hunting and skinning the 4 Brown Towhees collected.

July 27, 1946

Hunted in a.m. from 7:30 a.m. to 10:30 a.m. and collected 4 Brown Towhees. Spent rest of a.m. skinning. After lunch we packed up and drove to Toluca, thence to Temascaltepec, Mexico, Mex., 5500 ft, over 47 miles of the worst, roughest road we have hit yet. The road led along the west shoulder of Nevado de Toluca, and we reached an elevation

Savis
1946

34.

4 mi. W of Salazar, 9500 ft, Mexico, Mex. to Temascaltepec, Mexico, Mex.

July 27, 1946

of 11,300 ft. No detailed notes were taken en route, so I will not set down any detailed observations on the trip at this point. However, the vegetational zoning seemed much the same as on Popocatepetl, i.e. going from lower to higher altitudes, long-needle pines, mixed long-needle pines + fir, pure fir, or nearly pure, and finally short-leaf pines, with a few large oaks near the crest. The road runs for some miles at an elevation of 11,000 ft plus, and then drops abruptly into a large north-south valley which is walled off on all sides save the west by high, coniferous ridges. The road drops all the way down through the valley, and towards the southwest corner leads down a narrow steep-walled canyon, to Real de Arriba, at 5850 ft, + thence to Temascaltepec, at 5500 ft. The vegetation in this canyon is a weird melange of oak, pine, alder + willows along the Rio Temascaltepec in the canyon floor, junipers, and numerous patches of bananas. There is some tree-yucca and tuna cactus, and a few maguey hedgerows about the pastures + corn fields.

Temascaltepec, 5500 ft, Mexico, Mex.

July 27, 1946

Pines are quite heavy along the crests of the canyon walls, ~~to~~ where not timbered off, but there are only isolated pine trees along the lower canyon walls. Oaks are very numerous, and there seems to be a heavy undercover of brambles & other shrubs. We stayed overnight at an innominate hotel, slept in a bed that must have been used by William Bullock, ate in a restaurant named "La Fondita", which I shall certainly name as a suspected source if I should in the future come down with amoebic dysentery, and more or less disrupted the normal flow of Temascaltepec life by merely walking around the Plaza!

July 28, 1946

Drove out of town about 7/10 of a mile and made camp in an abandoned house. We have a pretty good layout. Hunted from 10 a.m. to 1 p.m., & from 1:30 p.m. to 5 p.m. Birds noted: - White-eyed Vireo (heard commonly), Groove-billed Ani, Mexican Trogon, Brown Towhee, ~~Bewick Wren~~, Blue Grosbeak, Chipping Sparrow, Turkey Vulture,

Temascaltepec, 5500 ft, Mexico, Mex.

July 28, 1946

Catharus melphomenae (aurantiostrius),
Red-headed Tanager, Ground Dove,
Mexican Goldfinch, Canyon Wren,
Sharpe (?) Seedeater. Collected 1 Brown
Towhee.

July 29, 1946

Hunted from 7:15 a.m. to 11:15 a.m. Collected 4
Brown Towhees, 1 Myiochanes fertinax, and 1
Sialis mexicana. Saw several groups of Finches.
Skinned in afternoon + part of evening, as we had
several Mexican boys hunting for us, and they
brought in 6 P. fusca for which they were paid
1 peso = \$.20 each. 2 were taken with a sling shot, +
were in good shape, but the rest were taken with
a 12 ga. shotgun shooting 4's + were pretty sad.
We leave this locality tomorrow.

Temascaltepec, Mexico, Mex. to Zacapu, Michoacan, Mex.

July 30, 1946

Left our camp at about 9:00 a.m. The operator of the mine
power plant, + his father, were on hand to say goodbye.
His name is Felix Varga, and he is very helpful + very in-
telligent. He could be of use to future collectors around Te-
mascaltepec. ~~Brown~~ Drove back to Zimacantepec, and thence
to the main road, turning West and stopping at
Zitacuaro for lunch and repairs to our spare tire. Then
onto Quiroga and through to Zacapu, stopping at the

Temascaltepec, Mexico, Mex. to Zacapu, Michoacan, Mex.

July 30, 1946

Hotel del Jardin (not recommended) and eating at the Cafe Chon (pretty good).

Zacapu, Michoacan, Mex. to Patzcuaro, Michoacan, Mex.

July 31, 1946

Left Zacapu at about 1 a.m. and drove to Quiroga for breakfast, collecting 2 P. fuscus on the way (Sibley + I each 1). Then drove to the town of Patzcuaro, and out to Tacambaro, 34 mi. SE of Patzcuaro. Then returned to Patzcuaro, putting up at Hotel Lago de Patzcuaro (very good). On the way back from Tacambaro, Chuck shot 2 P. fuscus for me, and I collected 2 P. orai for him.

Patzcuaro, Michoacan, Mex. to Uruapan, Michoacan, Mex.

August 1, 1946

Returned to our locality 2 mi. SE of Patzcuaro, 7700 ft, where we collected P. orai yesterday, and between us collected 6 P. orai and 6 P. fuscus. I took a crossbill feeding on pine cones about 8 ft up in a tree by the edge of a field. The bird fed in an upside down position and looked like a Yara-beet. The following is a list of birds observed near Patzcuaro, from the lake shore to the high pine country above town: - Great Blue Heron, American Egret, Turkey Vulture, Sparrow Hawk, Road-runner, Hairy Woodpecker, Acorn-Storing Woodpecker, Flicker, Empidonax fulvifrons, Myiochanes pertinax, Barn Swallow, Asphebrowa



Patzcuaro, Michoacan, Mex. to Uruapan, Michoacan, Mex.

Aug. 1, 1946

Sordida, Parus sclateri, Parus melanotis, Brown Creeper, White-breasted Nuthatch, Bewick Wren, Brown-throated Wren, Catharus sp., Robin, Western Bluebird, Blue Mockingbird, Olive Warbler, Basileuterus sp., Piranga flava, Junco phaeonotus, Brown Towhee, Patzcuaro Towhee, Mexican Crossbill, Finch, lowbird (m. ater), Yellow-headed Blackbird, English Sparrow, Green-backed Goldfinch, Shrike, Curve-billed Thrasher, Plagiosfyia superciliosa. Following our collecting we proceeded through Patzcuaro, Quiroga, and Zacafrán to Tarascan, where we turned south to Uruapan, 45 mi away. At Uruapan we went to the Hotel Progreso, where we made inquiries as to the whereabouts of Drs. William H. Burt & Norman Hartweg, and were told that Dr. Burt had left for Guadalajara about 6 days before. We then drove out of Uruapan & turned off on the dirt road leading to Volcan de Parícutin. Went about 13 miles & came to a town where one hires horses & rides to Parícutin. It was getting late & threatening rain, so we returned to Uruapan without seeing Parícutin, & stayed overnight at the Progreso.

Uruapan, Michoacan, Mex. to Guadalajara, Jalisco, Mex.

Aug. 2, 1946

Drove from Uruapan back to Camino Nacional N° 4 at



Arriaga, Michoacan, Mex. to Guadalajara, Jalisco, Mex.

Aug. 2, 1946

Arriaga, and then drove west past Lake Chapala to Guadalajara, where we stayed overnight at the Hotel Roma.

Guadalajara, Jalisco, Mex. to Sierra de Tafalpa, 15 mi. W of Sayula, 7450 ft, Jalisco, Mex.

Aug. 3, 1946

Left Guadalajara and drove to the Autlan turn-off, 21 miles S, and drove along the road to Autlan 10 miles to Villa Corona, where the road to Jacoalco and Ciudad Guzman supposedly turns off. However, we were informed that the recent rains had made the road impassable, so returned to C.N. No 4 and drove 6.3 miles on toward Mexico City, past El Molino, to another turn-off. Took this road to Sayula, where we turned west toward Sierra de Tafalpa, finally making camp at: Sierra de Tafalpa, 7450 ft 15 mi. W of Sayula, 7450 ft, Tafalpa, Jalisco, Mex.

Sierra de Tafalpa, 15 mi. W of Sayula, 7450 ft, Jalisco, Mex.

Aug. 4, 1946

Hunted around a small settlement called San Miguel, about 1 mi. NW of camp. Then got lost. Altogether I was on the road from 7:30 a.m. to 5:30 p.m.

Aug. 5, 1946

Hunted a short while in a.m. Then returned & skinned yesterday's & today's birds.

Lavis
1946

40.

Sierra de Tafalpa, 15 mi. W of Sayula, 7450 ft, Jalisco, Mex.
to Guadalajara, 5200 ft, Jalisco, Mex.

Aug. 6, 1946

The heading is self-explanatory. Put
up at Hotel Roma. Good shower, beds, & chow
Guadalajara, 5200 ft, Jalisco, Mex. to San
Luis Potosi, San Luis Potosi, Mex.

Aug. 7, 1946

Stayed at Hotel Colonial, San Luis Potosi.
Good room, fair chow.

Species Accounts

Lewis
946

Strix varia

1 mi. E of Chiltepe, 7400 ft, Guerrero, Mex.

July 22, 1946

The ^{Gizzard}~~Stomach~~ of #1857 was crammed full of mammal hair + bones, about 50%, and beetles (Carabids + Chrysomelids) about 50%. 1 bird feather was found. The mammal bones included 2 lower jaws, numerous limb bones, a few ribs, and some skull bones, ^{a few vertebrae}, all of a size approximating Peromyscus. Three white nematodes were present, from 1 to 2 inches in length. In addition, the feathers were teeming with Mallophaga to such an extent that while skinning the bird I had to stop every few moments and remove them from my hands. The ear openings contained several Hippoboscids.

Cyanocitta stelleri

1.

6 mi. N of Pachuca, 9600 ft, Hidalgo, Mex.

June 30, 1946

3 ~~fl~~ flocks of Steller jays were encountered while I hunted through fairly dense tracts of ^{up.} Abies religiosa. The birds remained 30-50 feet in the trees, and were very wary, retreating as I made my way toward them. There were about 4 birds in the first flock, but I could not get near them. There were 3 or 4 in the second flock, and I managed to take one bird which flew into a nearby fir. The third flock was composed of 3 or 4 birds, which continually drifted away from me. The Steller jays are apparently not uncommon here, travelling in small groups, and sticking pretty high in the firs. They are quite wary. Their call seems to me to be somewhat less loud than those around Berkeley.

~~One~~

July 1, 1946

One pair of jays heard & seen flying from top to top of the firs near camp. Several others were heard, but not seen, as they called from the fir trees a short distance from camp.

1 mi. E of Orizaba, 7400 ft, Guerrero, Mex.

July 22, 1946

Steller jays are abundant in the oaks here. They travel in small groups of from 2 to 5, and are very wary. Their harsh calls are like the northern form. They also give the "Red-tailed Hawk" scream, and I heard

Lewis
1946

Cyanocitta stelleri

2.

1 mi. E of Miltepe, 7400 ft, Guerrero, Mex.

July 22, 1946

one give several "creaky-wheel" notes like C. cristata. They usually stay high in the trees, but come down readily when squeaked at. They are one of the commonest birds here.

Pipilo fuscus

Zimapan, Hidalgo, Mexico - Mexico, D. F.

June 28, 1946

The first Brown Towhee was noted 2 miles south of Zimapan, 5850 feet, flying across the road. The country is high desert, with cacti and mesquite the dominant plant types. A curve-billed Thrasher was seen nearby. Hereafter in these notes, distances given as south of a town refer to road distances on Camino Nacional Numero 1, proceeding toward Mexico, D. F.

23 miles south of Zimapan, 1 P. fuscus and 1 Finch were seen, and Finches were heard singing nearby. Mesquite-maguey association. 15 miles south of Jimiquilpan, 6250 feet, 1 pair of P. fuscus was noted by the roadside. Associated birds were Vermilion Flycatchers, Mockingbirds, Finches, and Mexican Green-backed Goldfinch. 19 mi. south of Jimiquilpan 1 shrike and 1 P. fuscus noted. 1 1/2 miles south of Actopan 2 P. fuscus noted. 3 miles south of Actopan rain fell at 4 p.m. 12 miles south of Actopan, 7600 ft, 1 P. fuscus noted. 16 miles south of Actopan, 8000 ft, 1 P. fuscus noted. 17.5 mi. south of Actopan, 8050 ft, at top of crest above the Valley of Mexico, 1 P. fuscus. 22.5 mi. south of Actopan, just outside the small town of Matilde, at 7650 ft, 3 P. fuscus were noted. Country at this point is flat & farmed. 30 mi. south of Actopan, 7600 ft, 1 P. fuscus noted. 32 mi. south of Actopan, 7600 ft, 1 P. fuscus noted. 34 mi. south of Actopan,

Pipilo fuscus

Zimapan, Hidalgo, Mexico - Mexico, D. F.

June 18, 1946

7600 feet, 2 *P. fuscus* noted. 36 mi. South of Actopan,
7600 feet, 5 *P. fuscus* noted. The country here
is open and arid, with scattered mesquite,
tuna cactus, and mesquite. 44 miles south
of Actopan, 7400 ft, 1 *P. fuscus* noted. 49 miles
south of Actopan, 7400 feet, 1 *P. fuscus* noted.
54 mi. South of Actopan, 7400 ft, 2 *Pipilo fuscus*
noted. Inasmuch as Brown Towhees were noted
almost continuously from Zimapan nearly to
Mexico, D. F., and since the country is much
the same along their line of distribution, it
would seem that the population, radiating south
from Mexico City is continuous. From Zimapan to
the crest of the range enclosing the Valley of Mexico
to the south there is a rise in elevation of only
2200 feet, and nowhere is the elevation change
so abrupt that a barrier is formed. On the
basis of roadside observations, Brown Towhees
seem more common in the Valley of Mexico than
between the crest of the Valley and Zimapan. However,
the fact that it was later in the afternoon when
the crest was mounted, and a better time
for seeing birds, might account for this,
and may explain the lack of towhees ob-
served north of Zimapan. Towhees were certainly
more in evidence than any other bird from

Zimapan, Hidalgo, Mexico to Mexico, D.F.

June 28, 1946

Zimapan south to Mexico City.

Mexico, D.F.

June 29, 1946

1 Brown Towhee seen at the Azteca Courts, near the southern limit of Mexico, D.F.

June 30, 1946

Between Mexico, D.F. and ~~Pach~~ Pachuca, Hidalgo, Mex., a distance of 60[±] miles, brown towhees were seen commonly by the roadside, especially about maquey fields. They were not seen by grassy roadside fields where there was no cover available.

Real del Monte, 9050 ft, Hidalgo, Mex.

June 30, 1946

A brown towhee was seen at 9050 ft on the outskirts of Real del Monte. Another was seen a few hundred yards away. None were seen in the fir-oak forest just outside the town. The birds seen were in cleared land grown to maquey + short grass. The country around Real del Monte was once all fir-oak terrain, but the woods have been cleared, probably to provide fuel for the gold mines, and a scrub succession has come in. There are only scattered patches of fir-oak forest near Real del Monte. It is apparent that the continual clearing of the woodland, and cultivation of maquey and

Real del Monte, 9050 ft. Hidalgo, Mex.

June 30, 1946

corn, has limited the ranges of *P. maculatus* and *P. macronyx*, and extended the range of *P. fuscus*. Furthermore, it would seem that altitude is of secondary importance in the distribution of *P. fuscus*, and that habitat is the controlling factor. Preferred habitat seems to be open country with scattered, low scrub vegetation. Maguey seems to be an ideal type of cover for these birds. The country between Pachuca and Real del Monte ~~has~~ is grown to rather heavy, low scrub, but there are clearings all the way up. Another Brown Towhee was seen about 2 mi. W of Real del Monte, elev. 9000 ft, prevailing vegetation being small oaks + juniper with scrub understory. The only real barrier to this bird around the Valley of Mexico would be solid fir-oak forest. It is possible that such barriers in time would be destroyed through the agency of man.

Zerezo, 3 mi. N of Pachuca, 9000 ft, Hidalgo, Mex.

July 3, 1946

Reference for the locality of Zerezo is "Atlas Geográfico y Estadístico de la República Mexicana", published in 1944 by Libros y Periódicos, S.A., Mexico, D.F. The American Geographical Society map of this area shows this town as "Cerezo". At 7 p.m. I took the road leading

Zerezo, 3 mi. N of Parícuta, 9000 ft, Hidalgo, Mex.

July 3, 1946

South down the mountain to Zerezo, which is about 3 miles away. The town of Zerezo is situated at the foot of a steep south-facing slope. At 9000 ft I saw ~~2~~ 2 Brown Towhees perched on a rocky outcrop on the south-facing slope about 150 feet above Zerezo proper. Just after these birds were sighted a third Brown Towhee flew over my head and out of sight. The ♀ of the pair was collected. The nearest cultivation to this point was a small maquey field about 300 yards down slope. A Rock Wren and several Mexican Green-backed Goldfinches were seen nearby. The south-facing slope is steep, with scattered Juniper scrub and small patches of Baccharis sp. The grass cover is short and sparse, and the soil thin. Consequently there is a great deal of erosion, and there are many large rock outcrops and loose rocks on the slope. These rocky outcrops seem to be of weathered granite, and are very loose and crumbly. I then went about 300 yards down slope, to the outskirts of Zerezo, where I had seen from above numerous small corn and maquey fields on either side of a barranca, the ~~floor~~ ^{bed} of which was filled with large, loose boulders. It looked like excellent Brown Towhee habitat. I spent about 1 1/2 hours working the bed of the barranca and the adjacent culti-

Davis
1946

Pipilo fuscus

6.

Zerezo, 3 mi. N of Pachuca, 9000 ft, Hidalgo, Mex.

July 3, 1946

Vated fields, but failed to see a single Brown Towhee. I then proceeded up slope to the point where I had collected the first specimen, and saw another Brown Towhee in almost exactly the same spot, also sitting on a rock. However, there was a native woman walking directly behind the rock, so that I was unable to fire. The bird took alarm at her approach, and flew out of sight, and I was unable to relocate it. I then worked to the west a few hundred yards, crossing a low ridge of bare rock with almost no vegetation on it. This brought me to a small canyon, the floor of which was lined with cornfields. I crossed the cornfields and proceeded up the east-facing slope about 100 ft above a cornfield on the Canyon floor. At this point I collected another Brown Towhee, which was also perched on a large rock. The vegetation here was low and open: - scrub Juniper, tinacactus, Pentstemon, and Saccharis. The soil was dry and thin, and there was no grass cover. There were many rock outcrops. About 200 feet above, near the crest of the east-facing slope, there were scattered pines. The first specimen taken was a ♀ with a

Zerezo, 3 mi. N of Pachuca, 9000 ft, Hidalgo, Mex.

July 3, 1946.

well-developed food-patch. The ovary measured 7 mm. and some of the follicles were expanded, although the oviduct was not expanded. This ♀ was apparently just coming in to breeding condition. The second bird taken was an adult ♂ with testes measuring 14 mm. The left outer tail-feather was being replaced. These 2 specimens would indicate that the breeding season at this locality was just getting under way. The plumage of the 2 birds is not excessively worn. It is possible that the altitude in which these birds were found has a retarding effect on the breeding cycle as compared with populations farther down, e.g. birds in the Valley of Mexico proper. Although these birds undoubtedly invaded this area because of man's clearing and planting, and although altitude may not be of primary importance in habitat selection, it is possible that altitude may have a primary effect on the timing of the breeding cycle. These birds gave no notes of any kind before they were collected. The preference for rocky, open terrain, sparsely vegetated, is quite unlike that of the birds noted in the Valley of Mexico, which were found mostly along roadsides at the edges of the maquey fields. It would certainly appear that these birds

Zeryo, 3 mi. N of Pachua, 9000 ft, Hidalgo, Mex.

July 3, 1946

are not common in this area, as only 5 were noted inside of 3 1/2 hours, and 1 of these might have been an individual previously observed. The weather was clear and windless, and although it was warm, the temperature was not excessively high.

July 4, 1946

15 mi N of Mexico City, State of Mexico, Mex.

July 4, 1946

We took a road branching to the west off of C.N. N° 1, and followed it for about 3 miles hunting Brown Towhees. Only 4 were seen in this distance, possibly because it was around noon and the only birds seen commonly were shrikes and Myiarchus sp. The road was bordered on one side by an irrigation ditch margined by large pepper-trees, and on the other side by flat, open grassland with scattered clumps of scrub. One pair of towhees was seen under and in the branches of a pepper-tree, but they flew. The remaining 2 were single birds seen in clumps of scrub in the grassland. One was fired at and missed; the second was hit in one wing but escaped by running rapidly into the low vegetation, where we lost it.

Pipilo fuscus

9.

Mexico, D. F. to 5 mi E of Perote, 8700 ft, Veracruz, Mex.

July 6, 1946

On the way east from Mexico, D. F. towards Puebla on C. N. No. 2, Brown Towhees were seen fairly commonly to an altitude of 7600 ft, although habitat seemed favorable to a greater height. Oaks started along the road at 8200 ft, and pinos at 8600 ft. About 28 miles east of Mexico, D. F., elevation 9300 ft, the pinos are larger and the pine forests heavier. 32 miles east of Mexico, D. F., 9600 ft, the pine forest is quite heavy. The crest of the range is reached at 10,400 ft on this road. These high, pine-topped mountains must form an insurmountable barrier to P. f. fuscus of the Valley of Mexico, separating them from P. f. photosinus of the eastern plateau. 8 mi. east of Rio Tria, in Puebla, a P. fuscus was noted by the roadside, at 8200 ft elevation. The bird was collected as it foraged at the base of a road cut. Surrounding terrain was open pine country, with scattered maguey and corn fields, and some juncos. For the next 64 miles, not more than 1 or 2 Brown Towhees were noted. Most of the country traversed was flat farmland, and the principal crop is corn. It is possible that P. fuscus needs permanent vegetation, and that since the corn fields are annual, it does not find the correct ecologic niche about them. Maguey fields would provide good cover, as they are not annual.

Pipilo fuscus

10.

Mexico, D.F. to 5 mi. E of Perote, 8700 ft, Vera Cruz, Mex.

July 6, 1946

62 miles east of Rio Rio, at a point one mile east of the junction of the Orizaba-Mexico, D.F. and the Jalapa-Mexico, D.F. Roads, a large stand of shrubs, tuna cactus and magney bordered on the road, and 4 *P. fuscus* were seen. At the town of ^{Puebla, Mex.} Jalayeta, one Brown Towhee was seen on the roof of a house. 3 mi. NE of Jalayeta, in Puebla, Mex., 7600 ft, a Brown Towhee was collected from a magney plant just off the road. The terrain was scattered magney, brush grass and tuna cactus. Brown towhees were seen commonly around the towns of Perote, Sierra de Agua, and Tas Vigas. They frequented the magney hedge-rows between corn and grain fields. On the way from Mexico, D.F. it ~~became~~ was surprising with what accuracy one could predict whether a certain area would or would not produce sight records of *P. fuscus*. 2 conclusions become evident: 1). That extensive areas of conifers without breaks constitute an effective barrier against *P. fuscus*; 2). That the necessary ecologic niche for *P. fuscus* includes low, permanent or semi-permanent vegetation, not too dense. Annual field or farm crops apparently do not provide sufficient or long-lived enough cover for Brown Towhees. Some plant types that seem to be preferred are: magney, Baccharis and tuna cactus. Where there are annual

Lavis
1946

Pipilo fuscus

11.

Mexico, 0.7 to 5 mi. E of Perote, 8700 ft, Vera Cruz, Mex.

July 6, 1946

field or garden crops, P. fuscus may be found if the correct cover type is present, e.g.:—maguey hedge rows, or scattered cactus or shrubs.

Village of Sierra de Agua, 4 mi. N of Perote, 7900 ft, Vera Cruz, Mex.

July 7, 1946

This a.m. Sibly collected a Brown Towhee perched in a Baccharis sp. bush at the edge of a field. Several others were seen between Sierra de Agua and Perote. The roadsides here are bordered in many places by corn, maguey and grain fields. Many of the corn and grain fields are bordered by maguey hedge-rows, which apparently provide the necessary cover for Brown Towhees. The Brown Towhees collected yesterday, and the one collected today, were compared to the 2 specimens collected at Jerezo, 3 mi. N of Pachuca. The 3 specimens from the eastern plateau are larger, paler dorsally and with paler throat and chin patches and paler under tail-coverts. ^{map} Reference for the localities for the 2 towhees collected yesterday and the specimen collected today is the same as cited in species account for July 3, 1946.

2 mi. N of Perote, 7800 ft, Vera Cruz, Mexico.

July 8, 1946

Hunted in this locality from 8:15 a.m. to 1:00 p.m. There are numerous corn and pea fields all along the main highway from Perote to Sierra de Agua.

July 8, 1946

These fields are of various sizes, and are all separated one from the other by magney hedges, with Baccharis growing in between the magney plants. I hunted along the hedgerows, and saw about 15 Brown Towhees during the course of the morning. Unfortunately only 4 specimens were taken, as there were so many people working in the fields or walking or riding along the hedgerows that it was often impossible to shoot. Nearly all of the birds seen were paired. On several occasions birds were seen to fly from the hedgerows into the corn and pea fields, where they were seen to forage around the plants. When pursued into the field, they nearly always flew back into the magney rather than out in the fields. Other ~~common~~ associated birds seen in the magney hedgerows include: - Shrike (fairly common), linnet (abundant), Plagioptya superciliosa (very common), green-backed Goldfinch (fairly common), (Bewick?) Wren (common), Myiarchus sp. (1 seen). The status of the Brown Towhee in this locality must be considered to be that of a fairly common resident of scrub and magney in the vicinity of cultivated fields. No Brown Towhees were seen

2 mi. N. of Perote, 7800 ft, Vera Cruz, Mex.

July 8, 1946

between our camp, 5 mi. E. of Perote, 8700 ft, Vera Cruz, Mex. and the locality hunted this a.m. Although barley & corn fields extend into the pines, and although they are margined by scrub pines and T. saccharis, the birds were apparently absent. It was not until the maquey hedgerows were hunted that P. fuscus was seen. None of the birds seen were heard to utter any notes of any kind, so it is as yet impossible to draw any comparison between the note of these birds and, say, pechulans. At least 2 of the birds collected today were beginning their molt. Tail feathers were being replaced, some of the body feathers were being replaced, and in one specimen pinfeathers were noted in the buffy gular patch. Apparently the breeding season is pretty much over here. The gonads of all the birds (all ♂'s) were greatly enlarged, but are probably on the way to regression. These birds, as compared to those collected at Jerico, are certainly much farther along, as evidenced by the beginning of the molt, and the excessively worn plumage. Other birds seen along the maquey hedgerows, not previously mentioned:-

2 mi. N of Terote, 7800 ft, Vera Cruz, Mex.

July 9, 1946

Hunted Brown Towhees from 8 a.m. to noon along the maguey hedgerows in the same area as yesterday. About 12 towhees were seen, 2 of which were collected. Only a few solitary birds were seen, most of them being paired. All birds were silent. 2 pairs were seen about an old military fort, where they seemed to have a predilection for perching on the old adobe walls, which are about 10 ft high. Corn has been planted right up to the walls. One specimen (1843) was in the molt. The rectrices were not molting, but there were many pinfeathers all through the dorsal and ventrolateral feather tracts. The rectrices are quite worn. Pinfeathers were also noted in the crown. The bird is an adult ♂ with testes measuring 13 mm. On the way up to camp, I noted 2 Brown Towhees along a Baccharis - maguey hedge along a ploughed field at about 8300 ft. The birds flew along the hedgerow when disturbed, and finally took to the pinos bordering one end of the field flying from tree to tree in short hops, until I lost sight of them. This is the first time I have seen them in the pinos. Other birds seen along the maguey hedgerows, not mentioned in notes of July 8: Mourning Doves, about 3 or 4; Elasphurus

Pipilo fuscus

105

2 mi. N of Lerot 7800 ft Veracruz, Mex.

July 9, 1946

platycercus (Common), Western Bluebird (fairly common); Hylocharis leucotis (very common); Bewick Wren (Common). Horned Larks were seen in the open fields above 8000 ft. And where I saw the 2 Lowhes in the prunes, there were many Pine Siskins and Junco phaeonotus. The pea-fields planted throughout this area are cultivated to a legume which is called by the natives "haba".

Jalapa, Veracruz, Mex. to Orizaba, Veracruz, Mex.

July 10, 1946

This account starts at the point where C. N. R. 2, to Veracruz via Jalapa, and the unnumbered highway to Veracruz via Orizaba + Tordoba, join 26 mi ESE of the city of Puebla, in the state of Puebla. The route followed lies from the fork along the unnumbered highway to the city of Orizaba, Veracruz. 7 mi past the turn-off a Brown Lowhee was noted. The country here is flat farmland, with a roadside border of tall trees, Junca caracas, and shrubs (Mimosa?). 3 mi. past the turn-off, the terrain is flat, arid, dusty farm-land. 10 mi. past the turn-off the terrain is dry and desert-like.

Salapa, Vera Cruz, Mex. to Orizaba, Vera Cruz, Mex.

July 10, 1946

There are magney, tuna cactus, and scattered trees growing in very stony soil. 28 miles past the turn-off, and continuing for several miles, there is a very dense growth of xerophytic vegetation: - tuna and candelabra cactus, mesquite, and magney. Brown Towhees were noted in this vegetation. 39 miles past the turn-off the xerophytic vegetation is very heavy: - tree yucca, tuna and candelabra cactus, and mesquite; extending all the way to the foothills enclosing the valley in the floor of which the road lies. At the Tehuacan turn-off, the road climbs thru arid desert hills. These hills are covered with various cacti and shrubs, and tree-yuccas. 4 mi. past the turn-off to Tehuacan finches were noted along the hill-tops, although they were very few in number. 7 mi. past the Tehuacan turn-off, at 6350 ft. Brown Towhees were noted. The road continues to climb to an altitude of about 7500 feet, and then drops off in a breath-taking grade, falling to about 5000 ft within 2 miles. Although the plateau drops off sharply here, Towhees may get down to about 6000 ft, as chaparral growth could be seen on the mountain sides to about that point. The valley in which the town of Orizaba lies is semi-tropical. Orizaba is 4050 ft high.

Town of Orizaba, Vera Cruz, Mex. to Chalchicomula, Puebla, Mex.

July 11, 1946

Leaving the town of Orizaba, we drove back up the grade to 7100 ft (kilometer marker 292), at which point the road turns off to Chalchicomula, some 36 miles away. $\frac{1}{2}$ mile beyond the turn-off, altitude 7300 ft, the vegetation was predominantly oaks and dense Saccharis. For several miles the terrain was much the same. In this stretch, Pipilo fuscus was seen commonly, Pipilo maculatus was seen and heard commonly, Aphe-locoma caerulea was seen commonly, as were green-backed goldfinches. Catharus sp. was also heard. About 5 miles past the turn-off, at 7600 ft, Brown Towhees were common, near the town of Terro Gordo. Other sight records for Brown Towhees are: San Antonio Soledad, 7400 feet, 10 miles past the turn-off; Esperanza, 7750 feet, 18 miles past the turn-off; 22 mi. past the turn-off; and Chalchicomula, 8200 feet, 36 mi. past the turn-off. We drove above the town of Chalchicomula to an elevation of 10,350 feet, and Brown Towhees were observed commonly along the roadside so well above 9000 feet, above the town of Ojo de Agua. There are corn and grain fields all the way up to 10,350 ft, with long tongues of pinus & firs extending down along the ridges between the fields. The Brown Towhees

Chalchicomula, Puebla, Mex.July 11, 1946

have apparently invaded the area cleared for cultivation, sticking to the shrub hedgerows, mostly Baccharis. This is the same situation noted around Tachuca, Perote, & Las Vigas.

8 mi. NE of Chalchicomula, 10,350 ft., Puebla, Mex. to El Seco, Puebla, Mex.

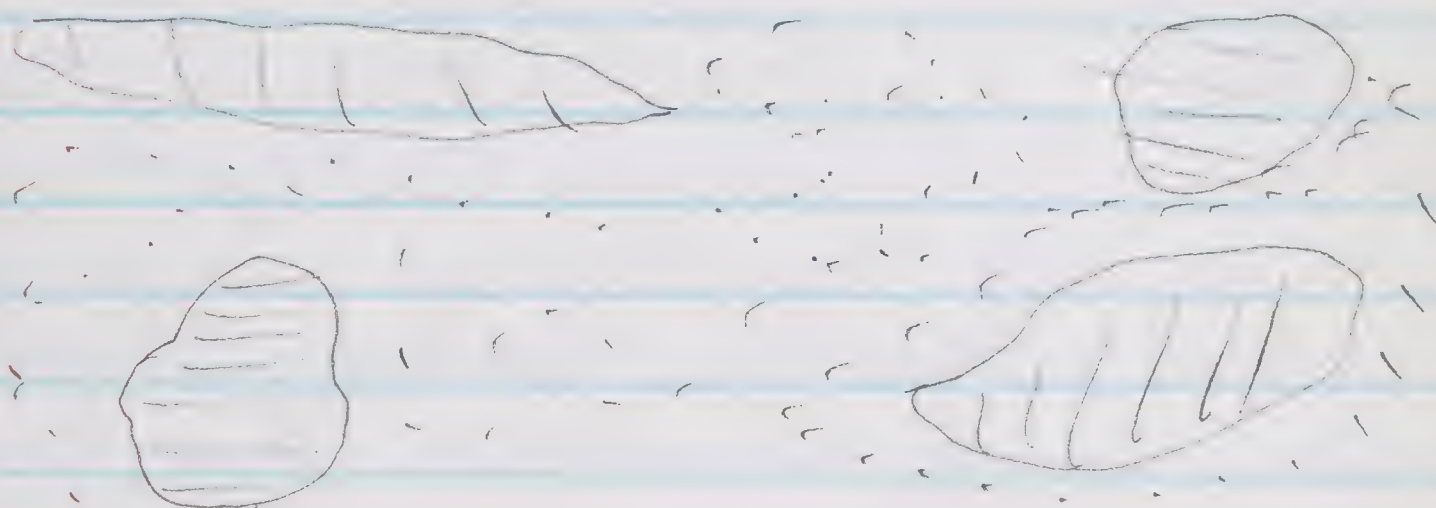
July 12, 1946

The first L. fuscus seen after leaving our locality 8 mi. NE of Chalchicomula, 10,350 ft., was at 9600 feet. They were observed commonly all the way to Chalchicomula, and all the way from Chalchicomula to El Seco (San Salvador El Seco), a distance of 19 miles. The country between Chalchicomula and El Seco is farmland, with the usual maguey & scrub hedgerows. The junction of the Chalchicomula-El Seco road with C.N. No. 2 at El Seco brings us back to the population of Towhees previously observed as far east as Las Vigas. In short, we have a continuous population all the way from Rio Frio, to the edge of the plateau to the east. This population is cut off from the Valley of Mexico by the high, coniferous mountains, rising to 10,000 ft or more on the eastern side of the Valley of Mexico. There is a possibility that the Valley of Mexico population gets on the eastern plateau around Tachuca, as the 2 birds collected at Jerzo are shorter-winged, darker dorsally.

8 mi NE of Chalchicomula, 10,350 ft., Puebla, Mex.

July 12, 1946

and with deeper cinnamon under tail coverts than the birds collected from Rio Tria to Perote. From the air, the distribution of these birds would resemble the following pattern:



The cross-hatched areas represent mountain chains & peaks. The lowlands are found in the finger-like projections of arid, desert-like, semi-desert-like, and cultivated areas between the mountains. Certainly the population on the eastern plateau is ~~contiguous~~ continuous, & undoubtedly represents one race. There may be a clinal trend of certain characters, and a worker studying birds at one end of the cline, as Lockyer did when working on the birds of Vera Cruz, might doubt that his birds were photosynthetic, but if such a cline exists, it would be so even and devoid of sharp breaks that the naming of additional races from the eastern plateau edge would be unwarranted.

Puebla, Puebla, Mexico to Oaxaca, Oaxaca, Mex.

July 14, 1946

The last Brown Towhee seen in the state of Puebla along C. R. 21 was between the city of Puebla and Atlisco. 4 mi south of Atlisco, the mountain chain visible to the west, forming the eastern limit of the Valley of Mexico, could be seen falling rapidly in altitude. Our altitude 4 mi S. of Atlisco was 5400 ft, and we were on a down grade. The country traversed by the road at this point is Valley land, cultivated, with scattered tree and scrub growth, and occasional candelabra cactus. The low hills bordering the Valley were covered with a heavy chaparral Chafarral, probably low mesquite growth. 19 mi South of Atlisco, elevation was 4250 ft, + temperature in the cab of the truck was 85°. At Matamoros, elevation 4100 ft, the country is almost tropical in nature. Bananas, rice + sugar cane are under cultivation here. Post-tailed grackles were seen commonly. This country is certainly unfit for occupation by P. fuscus. The combination of the high country on the eastern edge of the Valley of Mexico, plus the semi-tropical country which starts where the high country to the west falls off, probably keeps fuscus + gambelii apart. 2 1/2 mi SSE of Matamoros, we passed through a narrow valley, bordered by low hills covered with scattered small

Lepilo fuscus

21.

Puebla, Puebla, Mex. to Oaxaca, Oaxaca, Mex.

July 14, 1946

Trees, mesquite scrub, and Candelabra cactus.
5 1/2 mi. SSE of Matamoros the temperature in the truck cab was 90°F. At this point the road rises over a small range. The hills are covered with a lush growth of xerophytes: - Saguaro cactus, tree-yucca, mesquite, and Copal trees. The summit of the range is 4750 ft. at a point 7 mi. SSE of Matamoros. 6 miles farther on the altitude was 3700 ft. A notnot was noticed perched on a telephone wire at this point. 19 mi. SSE of Matamoros the country becomes quite hilly. The road traverses another small range, with the crest at 3750 feet. 1 white-winged dove was seen at this point. 2 1/2 mi. past the crest, the elevation was 3250 feet. 35 1/2 mi. SSE of Matamoros the temperature in the truck cab had risen to 95°F. 6 mi. SE of Huajuapam, elevation 5800 ft, the lush desert vegetation thins out. There is scattered Candelabra cactus, yucca (whipplei type) not blooming. The soil is thin, with many rocky outcrops, and there is a sparse grass cover. 9 1/2 mi. SE of Huajuapam elevation is 6300 ft. 13 1/2 mi. SE of Huajuapam elevation is 6200 ft, and 17 mi. SE " " , elevation is 6250 ft. The ranges seen to the west at this point seem to have a fairly heavy tree growth along their crests. 20 mi. SE of Huajuapam, at

Puebla, Puebla, Mex. to Oaxaca, Oaxaca, Mex.

July 14, 1946

5900 ft, the land seems to be under more cultivation than seen heretofore. 21 mi SE of Huajuapam, several Tarodum mucronatum were seen beside a small stream. 13 1/2 mi SE of Tamazulapan, at 7500 ft, oaks and juncos were first seen by the side of the road, and at this point a Brown Towhee was seen. 2 mi farther on the temperature in the cab was 80°F. 18 mi SE of Tamazulapan, a pair of Brown Towhees flew from some roadside vegetation and disappeared over a rocky outcrop. The country all through here, and all the way to Oaxaca, is rather heavily cultivated. There is a rather patchy growth of scrub oak all along the roadside. 50 mi SE of Tamazulapan, or 12 1/2 mi SE of Nochistlan, at 7750 ft, pinos were noted. 18 1/2 mi SE of Nochistlan, there was a fairly heavy pine-oak woods by the roadside. 27.5 mi SE of Nochistlan, at 7450 ft, the pine-oak association still was visible from the roadside. 7 1/2 mi farther on, a Band-tailed Pigeon flew across the road. 42 mi SE of Nochistlan, 5450 ft, the pinos & oaks had dropped out, and Boat-tailed grackles were seen. 8 mi farther on, tree cactus & mesquite were seen, & the land was

Puebla, Puebla, Mex. to Oaxaca, Oaxaca, Mex.

July 14, 1946

Heavily cultivated. This cultivated land continued all the way in to Oaxaca, at an elevation of about 5400 ft.

2 mi. S. of Mitla, 5400 ft, Oaxaca, Mex.

July 15, 1946

Drove from Oaxaca to Mitla. The country is a continuous valley, rising about 400 ft over the 30 miles to Mitla. The valley is heavily cultivated almost to the surrounding hills, but at the base of the hills is a broad belt of mesquite and cactus. There are occasional patches of virgin desert even among the corn and maguey fields to show what the nature of the country must have been before cultivation. Brown Towhees were seen in the village of Mitla, but it was obviously impossible to collect there, so we drove 2 mi back to the main road, and 2 mi SE along the main road that leads to Tehuantepec. This put us 2 mi due S of Mitla. We drove off the main road, and stopped near a corn field. The area is one of scattered corn + maguey fields, with interspersed patches of mesquite scrub and scattered giant candelabra cactus. Tree barrel cactus, and both cholla and juna cactus were common. Brown Towhees were fairly common, and Sibley

2 mi. S. of Mulla, 5400 ft, Oaxaca, Mex.

July 15, 1946

and I collected 2 apiece. Both of mine were taken as they perched well up in the Candelabra cactus, although others were seen in the mesquite. The birds were very wild + hard to hunt. They uttered two notes, one a "tsip-tsip-tsip", rather wry, and quite a bit like petulans. The other was a loud, bubbled "Che-rink", quite unlike any P. fuscus note I have ever heard. Other birds seen in the vicinity were Heleodytes (^{jaousne} ~~capillus~~), mocking-birds, and green-backed goldfinches. Doves were also noted, + 1 Robin. These birds are apparently Pipilo (fuscus?) rutilus, at least they certainly conform to Ridgway's description of that bird, of which I have never seen an example. It appears that Moore's P. f. fori is merely the winter-plumaged rutilus found all through this area. These birds have several interesting features: - a). Reddish-brown iris; b). white supercilious stripe in varying degree; c). a definite tooth on the lower mandible; d). One bird shows a touch of yellow on the bend of one wing. The amount of orange on the side of the throat is variable, as is the black breast spot. The orange of the throat is flecked

2 mi. S. of Tula, 5400 ft, Oaxaca, Mex.

July 15, 1946

with small black triangles (on the feather tips) that are very suggestive of *P. f. fuscus* and *P. f. photosinus*. The dorsal aspect of the bird is certainly *fuscus*-like, and the distribution of orange-buff on the flanks & anal region is also *fuscus* like. I think it a well-marked race of *P. fuscus*. At any rate, it would appear that Moore's *bori* is N. G.

4 1/2 mi. SE of Oaxaca, 5400 ft, Oaxaca, Mex.

July 16, 1946

Collected an adult ♂ on the way down from the mountains to the plains about the city of Oaxaca. We saw no ~~birds~~ Brown Towhees above 6000 ± ft, where the scrub oaks come in. This country was once grown to mixed pinos and oaks, but apparently the pinos have been logged off on the lower slopes and the oaks have taken over. This bird was collected below the oak belt, in a narrow, steep-walled canyon, with a stream in the canyon floor. The walls of the canyon are pretty well covered with corn fields, and the country is open, with only scattered trees & shrubs. The bird collected was one of three (possibly a family group) which flew from the roadside into a low tree. This shows that *P.*

4 1/2 mi. SE of Oaxaca, 5400 ft, Oaxaca, Mex.

July 16, 1946

P. rutilus extends up the Valley between Mitla and the city of Oaxaca.

10 mi. SE of Oaxaca, 5200 ft, Oaxaca, Mex.

July 17, 1946

In the a.m. we drove south of Oaxaca about 10 miles and turned off a shortway along a side road leading to a rather extensive patch of desert terrain: - heavy, low mesquite scrub, and candelabra, tuna, and miniature barrel cactus. Spent about an hour hunting and saw not one Brown Towhee. Sibley saw 4, and collected one. It is typical P. f. rutilus. In the p.m. we left Oaxaca for Mexico, D.F. The valley which continues south through Mitla continues north through Oaxaca. Just a short way north of the city of Oaxaca a good view of the Valley can be had, and the northern boundary of the Valley, in the form of an east-west mountain range connecting the bordering mountain ranges, can be seen. 21 miles North of Oaxaca, the road starts to climb. At this point, at an altitude of 5900 ft, the Valley floor can be seen below, and the vegetation is still scattered and xerophytic. 2 miles farther on, at 6150 ft, the scrub oaks come in, and 1 mile farther on, at 6250 ft, pines show. 31 miles north, the

31 mi. N of Oaxaca, 7550 ft, Oaxaca, Mex.

July 17, 1946

Altitude is 7550 ft. 37 mi. North of Oaxaca, the altitude is 7500 ft, and the country is predominantly oak + pine. Although we looked carefully for Brown Towhees along the roadside, we saw none. Between Nochistlan (Nochistlan) and Tamazulapán, several Brown Towhees were seen, and Sibley shot one from the truck at a point 9 mi. South of Tamazulapán, 7100 ft, Oaxaca, Mex. This specimen is not rutilus, but appears to be photosinus. In other words, the range crossing the Oaxaca Valley 23 mi N of Oaxaca acts as a barrier to rutilus. The terrain where the photosinus (?) was collected is an open, arid valley, with maguay, some mesquite, and other shrubs. Cactus growth is virtually non-existent.

Mexico, D.F. to La Venta, D.F.

July 25, 1946

Drove SW of the city about 15 miles on the Toluca road to La Venta, looking for a place to hunt Brown Towhees. The country all the way up to the fir-pine belt at 10,000 ft is so well settled that we could find only one hillside of maguay-bordered cornfields, at 9000 ft, that was far enough from a settlement to be worked without interference. Brown Towhees were seen all the

Mexico, D. F. to La Venta, D. F.

July 25, 1946

way from the outskirts of Mexico City to La Venta wherever habitat was suitable, up to 9000 ft, but not above. Towhees were seen mostly along maquey hedgerows. They were not seen in the fir-pine forests. We hunted near La Venta, at 9000 ft, and saw numerous Brown Towhees, but they were so wild that we could not secure any specimens. We then drove back through town & north as far as Ventade Tarpia, Mexico, Mex., where we turned east on a branch road and went as far as San Juan Teotihuacan, and the Pyramids of Teotihuacan. Brown Towhees were very common all the way, but there was too much traffic on the road to stop and shoot. We returned to a point 2 mi. S of Ventade Tarpia, 7250 ft, Mexico, Mex. and collected 5 specimens of P. fuscus along a series of ploughed fields, maquey fields, and scrub-covered pastureland. Brown Towhees were probably the commonest bird along the 2 or 3 miles hunted, and about 50 were seen. They were extremely wild, and all specimens were taken with full loads of 8's or 10's. These birds are adept at using natural cover, and when

2 mi. S. of Venta de Tarpia, 7200 ft, Mexico, Mex.

July 25, 1946

we spotted them by the side of the road and stopped the truck to shoot. They would either fly way out into the fields, or fly a short distance and disappear behind a low hummock that was just enough to protect them. One specimen, shot by Libby from a maguey plant, had its beak and throat jammed full of live, small green grubs which it had apparently been eating when shot. These birds seem smaller & darker than the ones taken in Puebla & Vera Cruz. These birds do not seem to be in the molt yet, and are apparently in full breeding condition.

4 mi. W of Salazar, 9500 ft, Mexico, Mex.

July 26, 1946

On the way from Mexico to this locality, Brown Towhees were seen along Carretera Nacional 4 all the way to La Venta, but they were absent from the pine-fir forest above La Venta. They were first seen on the other side 2 mi W of Salazar. At this locality they seem to be common. The terrain where they are found borders the main road. The pines and firs have been cleared, and the terrain is mostly turf, the grass cover being short. There are numerous small

4 mi. W of Salazar, 9500 ft, Mexico, Mex.

July 26, 1946

patches, and many scattered bushes, of Baccharis, and occasional maguey hedgerows separating the turf pastures where the cows + sheep graze. Brown Towhees are seen out in the middle of the pastures, and when alarmed they fly farther out into the pastures, or fly into the Baccharis. However, they are not nearly as wary as the birds hunted yesterday. Sibley shot one + three. Two of the birds are molting. One is a juvenal, the first juvenal I have collected thus far. The gular patch + under tail coverts are dull, the sides are very dark, and the posterior underparts somewhat streaked. There are skull windows in this bird. The iris of the adult ♂'s is reddish-brown, and about the same color as that of P. f. rutilus. Further, the birds have a mandibular tooth, so that this character is apparently subject to much individual variation in P. fuscus. Most of the birds seen today were paired. One group of three was seen, possibly a family group. The 3 adult ♂'s are in full breeding condition with enlarged testes.

4 mi. W of Salazar, 9500 ft, Mexico, Mex. to Temescaltepec,
5500 ft, Mexico, Mex.

July 27, 1946

Brown Towhees were seen all the way from Salazar to Toluca, beyond Toluca on the turn-off to Temescaltepec, and along the road to Temescaltepec, on the west slope of Nevadade Toluca, at a height of 10,200 ft (!) ~~in~~ by a meadow in the fir belt. None were seen above this elevation. They must be confluent with the Valley of Mexico population and the population at Salazar. However, they must be stopped by the combination of coniferous forest & the higher altitudes of Nevadade Toluca. On the way down we passed from shortleaf pines to firs to longleaf pines to oaks to cultivated fields. No towhees were seen until we were on the ^{western} outskirts of Real de Arriba, 5850 ft, when a pair flew into a tree by the side of the road, & Sibley shot one from the trunk.

July 28, 1946

Two Brown Towhees were seen at the edge of a field on the western outskirts of Temescaltepec. This a.m. I worked a series of pastures along the Rio de Temescaltepec, some of which were hedged off by shrubs, some by maguey, & some by a combination

Temascaltepec, 5500 ft, Mexico, Mex.

July 28, 1946

of maguey & shrubs. I saw only one bird that resembled a Brown Towhee, & it was so far away I could not tell for sure. It was very hot & dry, & the sunshine was bright. In the p.m. from 1:30 to 5:00 hunted higher up the north facing slope, along a series of maguey-bordered corn fields. Saw about 12 Towhees, but they were extremely wild, & I collected only 1. There is very heavy undercover along the edges of the corn fields, and they invariably flew into this when spotted. The 1 I took was scratching in the dirt in the middle of a road before a farmhouse. Most of the birds were seen from 3-5 p.m. following a very heavy rain & hail storm which came in from the NE. After the storm the temperature dropped several degrees & the birds came out of the heavy cover.

July 29, 1946

Saw about 15 Brown Towhees, & collected 4. Most of them were in fields near houses and it was impossible to shoot them. In the p.m. 6 more were taken right around our house by Mexican boys from whom we purchased the specimens. Brown Towhees are a definitely common resident here.

Temescaltepec, 5500 ft, Mexico, Mex.

July 29, 1946

Two of the specimens prepared today are juvenals, with streaked underparts. Several of the ♂'s have very small gonads (1-4 mm.) & appear to be in fresh plumage. It is difficult to tell whether they are juvenals just molted into adult plumage, or adults with regressed gonads. 3 ♂'s & 1 female are definitely breeding birds. It seems that at least some of the birds here have broods a year. The fact that 2 juvenals were taken would indicate that the males in adult plumage are fully adult rather than newly molted juvenals, as the 2 juvenals collected are just starting their molt. This question will probably be solved only by a detailed study of plumage in a large series. These birds are found in the old familiar places - along vegetation-covered stone walls & in maguey & scrub hedgerows adjacent to cornfields and pastures. No call notes or song ~~was~~ ^{were} heard. One group of 3 was seen, and in the same places in which 1 bird was collected yesterday. Brown Towhees are called "fajaro bobo" by the natives here.

Temescaltepec, Mexico, Mex. to Zacapu, Michoacan, Mex.

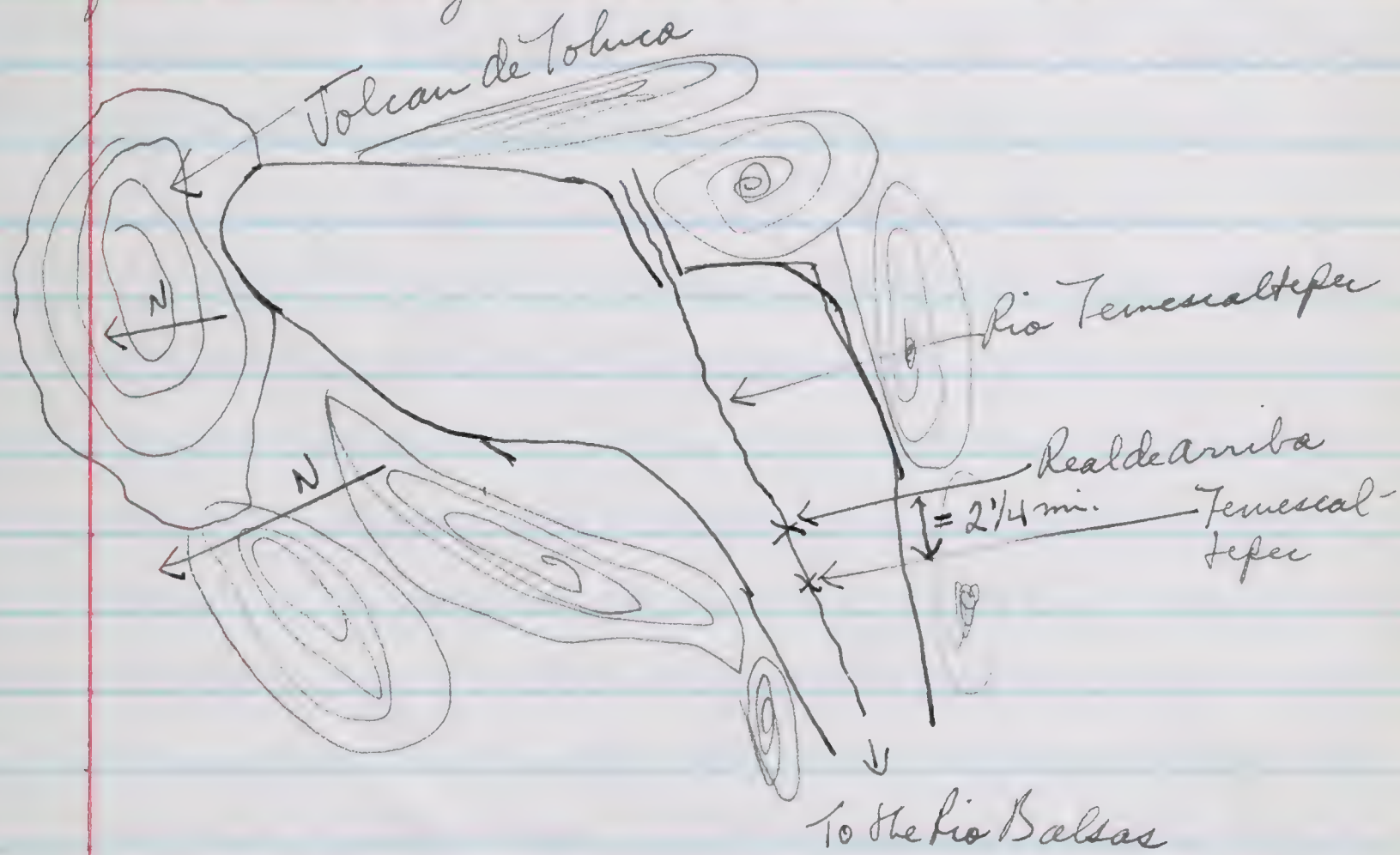
July 30, 1946

On the way from Temescaltepec to the main road, Brown Towhees were seen 8 mi. E of Temescaltepec, 7600 ft. These birds undoubtedly go from Temescaltepec along the

Temescaltepec, Mexico, Mex. to Jacahu, Michoacan, Mex.

July 30, 1946.

Rio Temescaltepec out to the NE-SW Valley which is walled off at the N End by Volcan de Toluca, and on the E and W by high, coniferous ridges. The Rio Temescaltepec flows E+W at the point where it enters the Valley, and the torohees undoubtedly follow it in both directions, both above and below Temescaltepec, although how far I cannot say.



According to the American Geographical Society map, there is a Valley running from the Valley of the Rio Temescaltepec NW towards Zitamaro, and there is a possibility that the birds may follow it and join the population which stems from the Valley of Mexico South. At any rate, there seems no other connection between this population and the outside, as they probably do not follow the Rio Temescaltepec to the Rio Balsas, which

Temescaltepec, Mexico, Mex. to Zacapu, Michoacan, Mex.

July 30, 1946

would be too low for the existence of Brown Towhees (below where we crossed it in Guerrero at 1700 ft). The main road, west of the junction with the Temescaltepec road, passes through a great stretch of rolling, grassy farm + grazing land. We crossed several fine ridges on the way to Zitacuaro, about 55 miles from the road junction. Brown Towhees were seen 8 mi. E of Zitacuaro, 8000 ft, and again at the following localities: - 2 mi. W of Zitacuaro, in a magney hedge; 12 mi. W of Zitacuaro; 1 mi. W of Tuxpan; 9 mi. W of Ciudad Hidalgo; 17 mi. W of C. Hidalgo; at Milumbres (town of?); 13 mi. E of Morelia, 6750 ft; 7 mi. E of Morelia; Morelia, 6400 ft; 2 mi. W of Morelia; 8 mi. W of Morelia; 14 mi. W of Morelia; 16 mi. W of Morelia; Quiroga, 6900 ft; 2 mi. W of Quiroga, 5 B. fuscus; 5 mi. W of Quiroga. Further records were prevented by the advent of darkness. The region in the hills beyond Milumbres for about 10± miles was traversed in a terrific hail + rain storm which precluded observation. The stretch from the junction of the Temescaltepec road and C. N. 4 passed through rolling grassland for the most part, and was traversed at a poor time of day. There are undoubtedly Brown Towhees all the way down this valley. In other words, there seems to be a continuous population all the way from Ihuatpan,

Temascaltepec, Mexico, Mex. to Zacapu, Michoacan, Mex.

July 30, 1946

7 Through Mexico City, to Salazar, to Lerma, to Toluca, to Zitacuaro, to Quiroga, and probably beyond.

July 31, 1946

Zacapu, Michoacan, Mex. to Patzcuaro, Michoacan, Mex.

July 31, 1946

Leaving Zacapu, & returning to Patzcuaro, the following howler records were made: - $7\frac{1}{10}$ mi. E of Zacapu; $13\frac{1}{10}$ mi. E of Zacapu (2); Taranjas, 3 mi E of Zacapu (abundant); 5 mi. W of Zacapu, 6250 ft, collected; 10 mi. W of Zacapu (2); 5 mi. W of Quiroga, collected; Quiroga. On the road from Quiroga to Patzcuaro: - 8 mi. SSW of Quiroga; $9\frac{1}{2}$ mi. SSW of Quiroga; $12\frac{1}{2}$ mi. SSW of Quiroga; Patzcuaro, abundant. From Patzcuaro to Tacambaro: - 4 mi. SE Patzcuaro, 7800 ft; 7 mi. SE Patzcuaro, 7400 ft (5); 10 mi. SE Patzcuaro, 7600 ft; 20 mi. SE Patzcuaro, 7450 ft; San Juan de Vina, 23 mi. SE Patzcuaro (2); 6 mi. NW of Tacambaro, 6900 ft, (2); and on the way back to Patzcuaro, 8 mi. NW of San Gregorio (14 mi. SE of Patzcuaro), 7700 ft, 2 collected. All the birds were seen in hedgerows and brush patches surrounding or bordering on fields, or in fields, or out about buildings in towns.

2. mi SE Patzcuaro, 7700 ft, Michoacan, Mex.

Aug. 1, 1946

Hunted for about 2 hours in this locality. *P. fuscus* and *P. ocai* really occur together in this section,

2 mi. SE of Patzcuaro, 7700 ft, Michoacan, Mex.

Aug. 1, 1946

often being found in the same hedgerow, or in the same tree & brush-filled barranca. In all my hunting, however, I never saw orai out of the trees or brush, whereas fuscus was commonly observed to forage in the adjacent cultivated fields, out in the open. On 3 separate occasions, while squeaking to attract P. orai, I had pairs of Brown Towhees respond immediately to my squeaks, and flash out into the exposed outer branches of trees & shrubs, uttering a continuous series of very harsh "chaak-chaak" notes, quite unlike the clear "chink-chink" of our California Brown Towhees. This is the first time in all the P. fuscus hunting I have done in Mexico that I have had the birds respond to squeaks. They acted very much like birds that had young out of the nest, and were probably either late breeders, or birds with a second brood. 2 of the birds collected in this locality are molting juveniles. Several of the adult males have a great deal of rufous on the pileum, a character supposedly pertaining to potosinus, but they are darker dorsally, and the under-tail coverts a more intense cinnamon, than potosinus. These birds are continuous with the Salazar - Patzcuaro population.

Patzcuaro, Michoacan, Mex. to Uruapan, Michoacan, Mex.

Aug. 1, 1946

Additional records for P. fuscus: - 10 mi. W of Zacafrán; $1\frac{1}{2}$ mi. S of Tarafán; 8 mi. S of Tarafán; $14\frac{1}{2}$ mi. S of Tarafán; $1\frac{1}{2}$ mi. S of Cherán, 7750 ft, 2; $4\frac{1}{2}$ mi. S. of Cherán; 5.2 mi. S of Cherán; 7.8 mi. S of Cherán; 9 mi. S of Cherán, 2; 10.3 mi. S of Cherán; and 14 mi. S of Cherán. The record for 10 mi. W of Zacafrán is on Camino Nacional No. 4. All other localities are on the road that turns south at Tarafán and proceeds to Uruapan. Additional records along the road leading from the Tarafán-Uruapan road to Parícutin; 2 mi. from turn-off; 13 mi. from turn-off. The turn-off to Parícutin is 9 mi. N of Uruapan. It is obvious that the population from Salazar to Tarafán along C.N. No. 4, and the population from Tarafán to Uruapan, are continuous. Although we did not go all the way to Volcane Parícutin, we traversed several of the ash fields near the volcano. Towhees were not seen on the ash fields, but they are still near the Volcan where their habitat has not been entirely covered by ash.

Uruapan, Michoacan, Mex. to Guadalajara, Jalisco, Mex.

Aug. 2, 1946

Additional records for P. fuscus: - $1\frac{1}{2}$ mi. N of Uruapan; 34 mi. N of Uruapan; 7 mi. S of Tarafán.

Arriafan, Michoacan, Mex. to Guadalajara, Jalisco, Mex.

Aug. 2, 1946

From Arriafan, the road leads west through a valley, almost entirely agricultural (either cultivated land or grazing land). Tuna cactus and maguey hedgerows are common. The hills on either side of the valley are covered with pines. 22 mi. W of Arriafan, at Zamora, the altitude is 5200 ft. 3 mi. W of Jacana, P. fuscus noted. The valley leading through Arriafan continues through Zamora, dropping in elevation. It is mostly farming and grazing land. Tuna and candelabra cacti, and bull horn acacia, and mimosa, are common. 4.6 mi. W of Jacana 2 P. fuscus were noted. 12.7 mi W of Jacana we crossed a ridge, the crest being 5750 ft, but there was good P. fuscus habitat all the way over the ridge and down the other side. At Villamar, 20 mi. W of Jacana, 5100 ft, P. fuscus was noted. There were not many Brown Towhees seen along this stretch, but it was traversed during the heat of the day, when Towhees usually take cover, as at Temascaltepec, which is about the same elevation. 34 mi. W of Villamar we crossed the line into Jalisco. At this point the sun had disappeared, rain clouds were gathering, and the temperature had dropped somewhat. 14 mi. W of the Jalisco line, P. fuscus noted. 18 mi. W of the Jalisco line, P.

Arriaga, Michoacan, Mex. to Guadalajara, Jalisco, Mex.

Aug. 2, 1946

Fuscus noted. 22 mi. W of the Jalisco line, B. fuscus noted. (San Luis) Soyotlan, 5200 ft, B. fuscus noted. 12 mi. W of (S. Luis) Soyotlan, B. fuscus noted. 12 1/2 mi. S of Guadalajara, 4 B. fuscus noted. To sum up, no barrier has been noted between Salazar, Mexico, Mex. and Guadalajara, Jalisco, Mex. Certainly Lake Chapala is no barrier, as the lowlands follow the lakeshore and the hills above the lake shore. There is an altitudinal decrease, rather even in nature, from Salazar, at 9500+ ft, to Guadalajara, at 5200 ft. Spread over this altitudinal "cline" is an almost continuous population of birds. It is possible that certain characters are subjected to a clinal effect, concomitant with the altitudinal cline and its associated vegetational & meteorological changes, but it is hard to see where any sharp breaks in the cline occur. It is possible that Van Rossem named a population representing one end of the cline as senecirosus. The naming of such a population does not represent the true picture. Thus far, the birds seem to show larger size and more rusty in the plumage, rather than smaller size & overall darker coloration.

Guadalajara, Jalisco, Mex. to Sierra de Tagalpa, ^{15 mi. W of Sayula} 7450 ft., Jalisco, Mex.

Aug. 3, 1946

Drove from Guadalajara 21 miles to the Autlan turn-off, and 10 miles down the Autlan turn-off to Villa Corona. P. fuscus was noted 1 ⁴/₁₀ mi. E of Villa Corona. The country here is mostly cane-fields surrounded by stone walls. From Villa Corona we returned to Camino Nacional No. 4, and drove 6.3 mi. toward Mexico City, to the turn-off leading to Jacoalco & Ciudad Guzman. 7 ¹/₁₀ of a mile S of the turn-off P. fuscus was noted. The road leads south along the east shore of Lago de Atotonilco, which is a playa, but filled with water at the present time because of the recent heavy rains. The elevation at the turn-off to Jacoalco is 5200 ft., and the road rises a few hundred feet over a small ridge, dropping down to the shore of Lake Atotonilco at 4600 ft. 6 mi. past the turn-off Brown Towhees were noted. One Brown Towhee was collected 2 mi. NE of Jacoalco, 4550 ft. From here on Brown Towhees were noted so frequently that the population may definitely be called continuous. The stretch from the turn-off to Sayula is ^{nearly} flat, the elevation at Sayula being 4700 ft. This represents a drop of 500 ft. from the turn-off, and ~~most~~ ^{all} of this occurs within the first 4 miles. The Laguna de Sayula lies E of the road, which follows the lake shore closely. Laguna de Sayula

Lavis
1946

Pipilo fuscus

42.

Guadalupe, Jalisco, Mex. to Sierra de Tala, 15 mi. W of Sayula,
7450 ft Jalisco, Mex.

Aug. 3, 1946

is almost completely dry at present. The country on the way to Sayula is arid tropical. Groove-billed Anis were noted on the way. There is a great deal of luna cactus, some scattered Candelabra cactus, maquey, and many corn fields. Leaving Sayula on the road to San Gabriel we went up a fairly steep grade. The country on the way up is mostly low scrub, with scattered deciduous trees. The first oaks were noted at 5850 ft. At 6500 ft, the plant association included oaks, pinos, minosa, and maquey. The first Brown Towhee noted after leaving Sayula was 13 miles from town. After this they appeared commonly, and one was collected a short distance from where we made camp. Although towhees were not seen for some distance up grade from Sayula, there is nothing to prevent their occurrence from Sayula up to the crest of the rise. The low scrub is broken by cultivated fields in many places, and this high country is not of barrier nature. Towhees are common higher up. Certainly the population from Lake Chapala ~~is~~ to Sayula is continuous, and it is hard to conceive of an endemic race being found between C. Guzman and Zacualco.

Lewis
1946

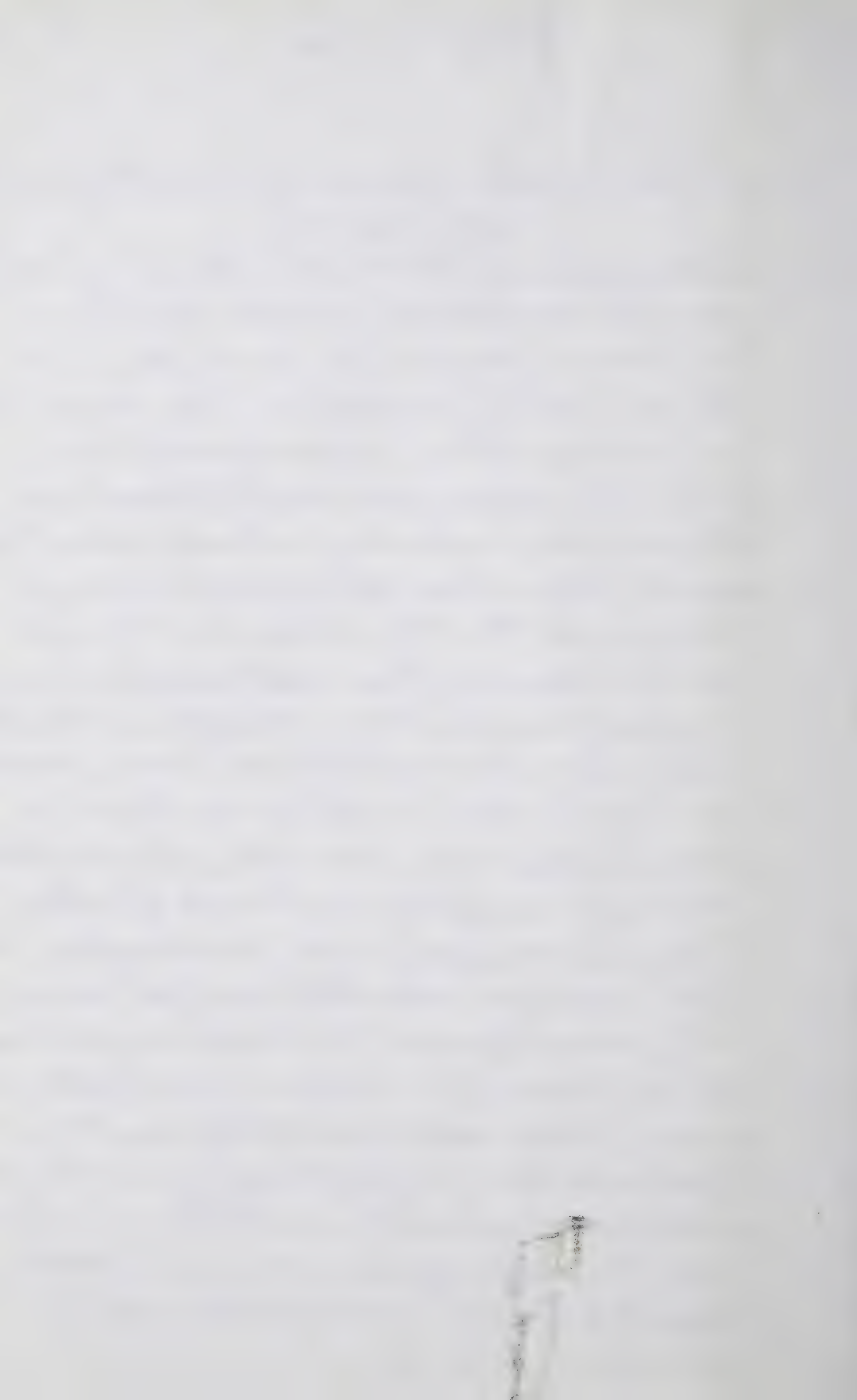
Pipilo fuscus

43.

Sierra de Tapalpa, 15 mi W of Sayula, 7450 ft, Jalisco, Mex.

Aug. 4, 1946

Brown Towhees, called by the natives "Vigitas", are abundant about fields and villages. The birds are paired, or in some instances are found in family groups of three. They are found in the usual places - in courtyards of houses, and in the maguey and scrub hedgerows, and on the stone walls, surrounding cultivated fields. They seem to show a more pronounced tendency to fly up into trees when alarmed. They also seem to be less wary than most of the other Brown Towhees I have hunted in other places, although Sibley tells me that most of the ones he encountered seemed quite wild. I must have seen close to 100 Brown Towhees today. In one place, a brush-filled Swale with minasa trees on the crests of the sides, P. fuscus and P. orai were found together. One of the individuals taken today was just coming into juvenal plumage. This would indicate that at least some of the birds here have 2 broods a year. The only note heard all day was the familiar series of gurgled phrases given when 2 birds became embroiled in a battle over what was either a piece of food or a perching station. These birds did not react to squeaks as did the birds above Patzcuaro.



Sierra de Tapalpa, 15 mi. W of Sayula, 7450 ft, Jalisco, Mex.

Aug. 5, 1946

Collected 2 adult males, both solitary, silent birds. One was taken from a stone wall surrounding a large area of pasture and corn fields. The other was taken a short distance out in the field, as it sat on a hawthorn bush.

Sierra de Tapalpa, 15 mi. W of Sayula, 7450 ft, Jalisco, Mex. to Guadalajara, 5200 ft, Jalisco, Mex.

Aug. 6, 1946

Drove from our camp back to Sayula at about 10 a.m. The grade down to Sayula looks good for Brown Towhees. The oak-pine association drops out about half-way down, and a xerophytic association comes in. There are numerous fields and small settlements all the way down, and this grade would certainly be no barrier between the Sierra de Tapalpa population and that of the Zacualco-Sayula Valley. From Sayula we drove to Ciudad Guzman, formerly called Zafatlán, and the type locality of P. f. penicillatus Van Rossum. The road out of Sayula leads east about $3\frac{1}{2}$ miles, and then turns south. A Brown Towhee was seen at this point. 4 mi. from the turn-off south we reached the crest of a ridge at 5200 ft, 500 ft above Sayula. This ridge does not constitute a barrier to P. fuscus. $5\frac{1}{2}$ mi. past the crest of the ridge Brown Towhees were noted. 11 mi.



Sierra de Tafalla, 15 mi. W of Sayula, 7450 ft, Jalisco, Mex.
to Guadalajara, 5200 ft, Jalisco, Mex.

Aug. 6, 1946 ² *P. fuscus* were noted.

Just the crest of the ridge a juvenal *P. fuscus* was collected in a cornfield about 1/4 mile from the limits of C. Guzman. The country all the way is a north-south agricultural valley, with Ciudad Guzman lying at the south end of the valley. The surrounding hills are low, and mostly scrub-covered, with a few pines along the crests. C. Guzman is at an elevation of 5100 ft. We returned to the same cornfield from which we had collected the juvenal *P. fuscus*, and took 1 *Melospiza ^{hieroni} rubra* and 3 adult Brown Towhees. Towhees are quite common here, but fly into the cornfields when disturbed, and are impossible to find. They seem to inhabit brush-filled barrancas between fields, and are also found on small knolls near the fields. These ~~for~~ knolls are covered with xerophytic shrubs, and with Yuma + candelabra cactus. Towhees were noted commonly all the way back to Camino Nacional No. 4, through San Andres Totlan, Sayula, Atoyac R.R. Station, and Jacoalco. They were noted on the crest of the ridge just south of C.N. No. 4. The Valley running through Jacoalco to Sayula connects with C.N. No. 4 farther west, and a playaa

Sierra de Tafalpa, 15 mi. W of Sayula, 7450 ft., Jalisco, Mex.
to Guadalajara, 5200 ft., Jalisco, Mex.

Aug. 6, 1946

Connects the Valley with Villa Torón to the NW, and possibly farther. The birds found on Sierra de Tafalpa were probably derived from the Valley population, since the Sierra de Tafalpa was probably entirely pine covered at one time. It seems probable that there is a continuous population from Lake Chapala to Guadalajara, one branch of which goes up the Valley to Sayula, & on up onto the Sierra de Tafalpa, and continues along the low country from Sayula to C. Guzman, & probably from C. Guzman to Tuxpan, where Blake & Hanson collected *P. fuscus fuscus*. It is hard to conceive of an endemic race between Zacualca & Ciudad Guzman.

Guadalajara, Jalisco, Mex. to San Luis Potosí,
San Luis Potosí, Mex.

Aug. 7, 1946

The country for about 75 miles northeast of Guadalajara is mostly lush farmland. It changes very gradually farther northeast, and the grass cover becomes shorter, and there is more *Yucca* *cardus* and thorn scrub. In the vicinity of San Juan de los Lagos, the terrain is

Guadalajara, Jalisco, Mex. to San Luis Potosi,
San Luis Potosi, Mex.

Aug. 7, 1946

definitely arid. A P. fuscus taken 4 mi. SW of San Juan de los Lagos has pale under tail coverts and an almost white gular patch, although the dorsal coloration seems darker than specimens taken around Perote, Vera Cruz, Mex. The country becomes progressively more arid & desert-like farther NE. There are great, dense stands of Junca cactus, some barrel and cholla cactus, and scattered xerophytic thorn scrub. In short, we have a meteorological cline of increasing aridity from SW to NE, and an accompanying clinal change in the Brown Towhees, the birds increasing in size & pallidness. The country from the city of San Luis Potosi to a point about 15 mi SW is utterly barren desert, mostly rocky hills without vegetation, a real "Stone orchard". Brown Towhees were seen commonly all the way save for the stony hills where there was not enough scrub growth to support them. Redsimus apparently represents a clinal extreme rather than an isolated subspecies. There is undoubtedly a long, gradual clinal change from Grada-

Savis
1946

Pipilo fuscus

48.

Guadalajara, Jalisco, Mex. to San Luis Po-
tosí, San Luis Potosí, Mex.

Aug. 7, 1946

Guadalajara to San Luis Potosí. Potosinus undoubtedly cuts across to the eastern plateau in Hidalgo, Puebla + Veracruz, connecting with the Valley of Mexico population of fuscus, probably around Pachuca. There may be other cross-connections ~~to~~ between fuscus and potosinus between Pachuca and San Juan de los Lagos. From what we have seen, potosinus is a bird of arid, desert-like country. The most distinct Mexican race of P. fuscus seems to be rutilus, which is evidently pretty far along the road to speciation. Fuscus seems to connect finally with potosinus, which again connects with perfallidus (if this is a good ~~ss~~ subspecies), which connects with mesoleucus + intermedius. Rutilus seems to be sharply cut off. In Oaxaca, it was stopped by a 7500 ft ridge, which would constitute no barrier to such mountain-climbers as fuscus + potosinus. The status of the birds of the Rio de Temascaltepec Valley is in doubt.

1946

San Luis Potosi, San Luis Potosi, Mex. to 27 mi. E of
Ciudad del May, San Luis Potosi, Mex.

Aug. 8, 1946

The country from the city of San Luis Potosi almost to Ciudad del May is true desert (Yuma, Candelabra and Cholla Cactus, tree yucca, creosote bush, & desert ironwood). The first 50 miles or so were driven in darkness, but almost as soon as the sun rose, Brown Towhees were observed, and were seen sporadically all the way to Ciudad del May. Just before coming to Ciudad del May we crossed a ridge, and Brown Towhees were noted more commonly going up the ridge than they were on the desert floor. Just east of Ciudad del May, at 4700 ft., a heavy oak forest with dense undercover was encountered. The oaks continue for about 15 mi E of C. del May, and begin to drop out at this point, where the elevation is 3650 ft. Here they are confined to the adjacent ridges. Brown Towhees were not seen in the oaks adjacent to the road. The oaks come in again 17 mi. E of C. del May. 18 mi E of C. del May we began the descent from the plateau. 22 mi. E of C. del May, el. 2200 ft., oaks are very sporadic. 27 mi. E of C. del May, 1400 ft., we were in the tropics again.

Berkeley, Alameda Co., Calif.

Aug. 11-13, 1946

Random impressions of *P. f. fuscus* compared with Mexican Plateau Brown Towhees, while impressions of the latter are still vivid.

The towhees here call a great deal more than their Mexican counterparts, and have a clear, loud "chink" or "sink", very metallic, as opposed to the harsh, flat "chack" of *P. f. fuscus* as heard near Patzcuaro, and the throaty "cherink" of *P. f. rutilus* as heard near Mitla. These Brown Towhees ^{often} station themselves on house-tops, in similar fashion to the Mexican birds, which have a fondness for the roofs of adobe & thatch houses, & the tops of adobe walls. The habitat around Berkeley, of lawns and gardens, with a certain amount of permanent or semi-permanent cover, such as ornamental hedges and bushes, is quite similar to the preference of Mexican forms for cornfields and pastures bordered by maize or shrub hedgerows. The hopping and scratching actions of both groups of birds is very similar.

Davis, J.

California, miscellaneous
May, 1947- Sept. 1950

Catalog
Journal

Davis, John

May 16, 1947 - Sept. 9, 1950

Catalog nos. 1913-2030

Berkeley, Alameda Co., Calif.

May 16, 1947

1913.

Pipilo fuscus (Alcoholic specimen)

1 1/2 mi. NW of Cisco, 6000 ft., in Nevada Co., Calif.

June 2, 1947.

1914.

♂ Lyanoritta stelleri Testis 7 mm.

9 mi. NNW of Fry, Cochise Co., Arizona.

Sept. 2, 1947.

1915.

♀ Phalaenoptilus nuttalli ovary 6 mm.

1916.

♀ " " ovary 7 mm.

Mouth of Miller Canyon at Hwy 92, 5000 ± ft., Huachuca Mts.,
Cochise Co., Arizona.

Sept. 3, 1947.

1917.

♂ Phalaenoptilus nuttalli Testis 2 mm.

1918.

? " "

Mouth of Miller Canyon, 5000 ft., Huachuca Mts.,
Cochise Co., Calif.

Sept. 7, 1947.

1919.

Pipilo fuscus (Wet specimen)

Furnace Creek Ranch, 178 ft. below sea level, Death
Valley, Inyo Co., Calif.

Feb. 11, 1948.

1920.

♀ Lanius ludovicianus ovary 6 mm.

Feb. 12, 1948

1921.

♂ Citellus leucurus 213-57-39-12

Feb. 13, 1948.

1922.

♀ Passer domesticus ovary 6 mm.

1923.

♂ Junco oreganus Testis 1 mm.



Davis.
1948.

Furnace Creek Ranch, 178 ft. below sea level,
Death Valley, Inyo Co., Calif.

Feb. 13, 1948.

1924. ♂ Sphyrapicus varius Testis 2 mm. Very fat.

Feb. 14, 1948.

1925. ♂ Passer domesticus Testis 3 mm.

Feb. 15, 1948.

1926. ♂ Passer domesticus Testis 3 mm.

SE corner Devil's Postpile Nat. Mon., 7500 ft., Madera Co., Calif.

~~1927. ♂ Sphyrapicus thyroideus July 3, 1948~~

1927. ♀ Sphyrapicus thyroideus 46.2 grams. ^{ovary 7 mm.} Brood patch
1 mi. S of Devil's Postpile Nat. Mon., 7300 ft., Madera Co., Calif.

July 4, 1948

1928. ♂ Carduelis cassinii 24.9 grams Testis 6 mm.

1/2 mi. W Red's Meadow, 7600 ft., Sierra Nat'l For., Madera Co., Calif.

July 5, 1948.

1929. ♂ Sphyrapicus varius 47.6 gms. Testis 5 mm. Brood Patch.

July 6, 1948

1930. ♂ Cyanocitta stelleri Testis 5 mm. Brood patch. ^{110.8} gms.

Red's Meadow, 7500 ft., Sierra Nat'l For., Madera Co., Calif.

July 7, 1948

1931. ♂ Sphyrapicus varius 48.7 gms. Testis 2 mm. ^{Brood} patch

4 mi. SE Red's Meadow, 8000 ft., Sierra Nat'l For., Madera Co., Calif.

July 8, 1948

1932. ♂ Passerella iliaca 30.3 gms. Testis 9 mm.

1933. ♀ " " 28.6 gms. ov. 7 mm. Brood patch.

(over)

Red's Meadow, 7500 ft., Sierra Nat'l For., Madera Co., Calif.

July 10, 1948

1934. ♀ ^{no emb.} Mustela frenata 356-130-41-22 mate of 1935

1935. ♂ " " 432-160-49-25 mate of 1934

~~1936.~~ ~~Starkweather Lake, 3 mi. N Red's Meadow,~~

8000 ft., Sierra Nat'l For., Madera Co., Calif.

~~1935.~~ ~~Pinicola enucleator 50.2 gms. July 11, 1948~~

1936. ♂ Pinicola enucleator 50.2 gms. Testis 10 mm.

5 mi. S Red's Meadow, 7000 ft., Sierra Nat'l For., Madera Co., Calif.

July 12, 1948

1937. ^{juv.} Dendragapus fuliginosus 103.5 gms.

3 mi. S Red's Meadow, 7000 ft., Sierra Nat'l For., Madera Co., Calif.

July 12, 1948

1938. Thamnopis sp. 724 mm. + 249 mm.

Sotcher Lake, 7500 ft., Sierra Nat'l For., Madera Co., Calif.

July 14, 1948

1939. Thamnopis sp. 558 + 184

Red's Meadow, 7500 ft., Sierra Nat'l For., Madera Co., Calif.

July 16, 1948

1940. Thamnopis sp. ~~558~~ 561 + 149⁽⁺⁾

1941. Rana boylei

3 mi. SSE Red's Meadow, 8500 ft., Sierra Nat'l For., Madera Co., Calif.

July 18, 1948

1942. Bufo sp. Dead in stream

1943. ♂ Picoides arcticus 61.9 gms. Testis 2 mm. Old broad patch.

E base of Red Tones, 8300 ft., Sierra Nat'l For., Madera Co., Calif.

July 18, 1948

1944. Thamnopis sp. 320 mm. + 112 mm.

E Base of Red Tones, 8300 ft., Sierra Nat'l For., Madera Co., Calif.

July 18, 1948

1945. Bufo canorus
1946. " "
1947. " "
1948. " "
1949. " "
1950. " "

Notcher Lake, 7500 ft., Sierra Nat'l For., Madera Co., Calif.

Sept. 2, 1948

1951. Thamnophis
1952. Rana
1953. Thamnophis

Red's Meadow, 7500 ft., Sierra Nat'l For., Madera Co., Calif.

Sept. 3, 1948

1954. Hyla
1955. Rana
1956. Rana

Strawberry Canyon, Berkeley, Alameda Co., Calif.

Oct. 2, 1948

1957. ^{ad.} skull Pipilo fuscus 53.7 gms. coll. by A.H. Miller ovary 6 mm.

81 Edgecroft Rd., Berkeley, Contra Costa Co., Calif.

Oct. 6, 1948

1958. ^{sex?} ^{sm.} skull Pipilo fuscus 51.9 gms. coll. by A.H. Miller
Berkeley, Contra Costa Co., Calif.

Oct. 8, 1948

1959. ♀ skull Pipilo fuscus (coll. by C. Koford) 54.8 gms. ovary 5 mm. ~~ovary 6 mm.~~

Savis.
1948.

Strawberry Canyon, Berkeley, Alameda Co., Calif.
Oct. 16, 1948.

1960. ♂ Pipilo fuscus 52.3 gms. Im. Skull
1961. ♀? " " Im. Skull

Berkeley, Contra Costa Co., Calif.
Oct. 16, 1948.

1962. ♀^{im.} SKULL Pipilo fuscus 59.7 gms. Ovary 3 mm.
1963. ♀^{im.} SKULL " " 53.3 gms. Ovary 3 mm.

2 mi. S. Lafayette, Contra Costa Co., Calif.
Oct. 24, 1948

1964. ♂^{im.} SKULL Pipilo fuscus 58.2 gms. Testis 2 mm.

~~1965.~~ Pipilo fuscus

Berkeley, Contra Costa Co., Calif.
Oct. 25, 1948

1965. ♂^{im.} SKULL Pipilo fuscus 57.0 gms. Testis 1 1/2 mm.
3 mi. SW Paicines, San Benito Co., Calif.
Oct. 31, 1948

1966. ♂^{im.} SKULL Pipilo fuscus 50.0 gms. Testis 2 mm.
14 mi. by road S of Monticello, Napa Co., Calif.
Nov. 14, 1948

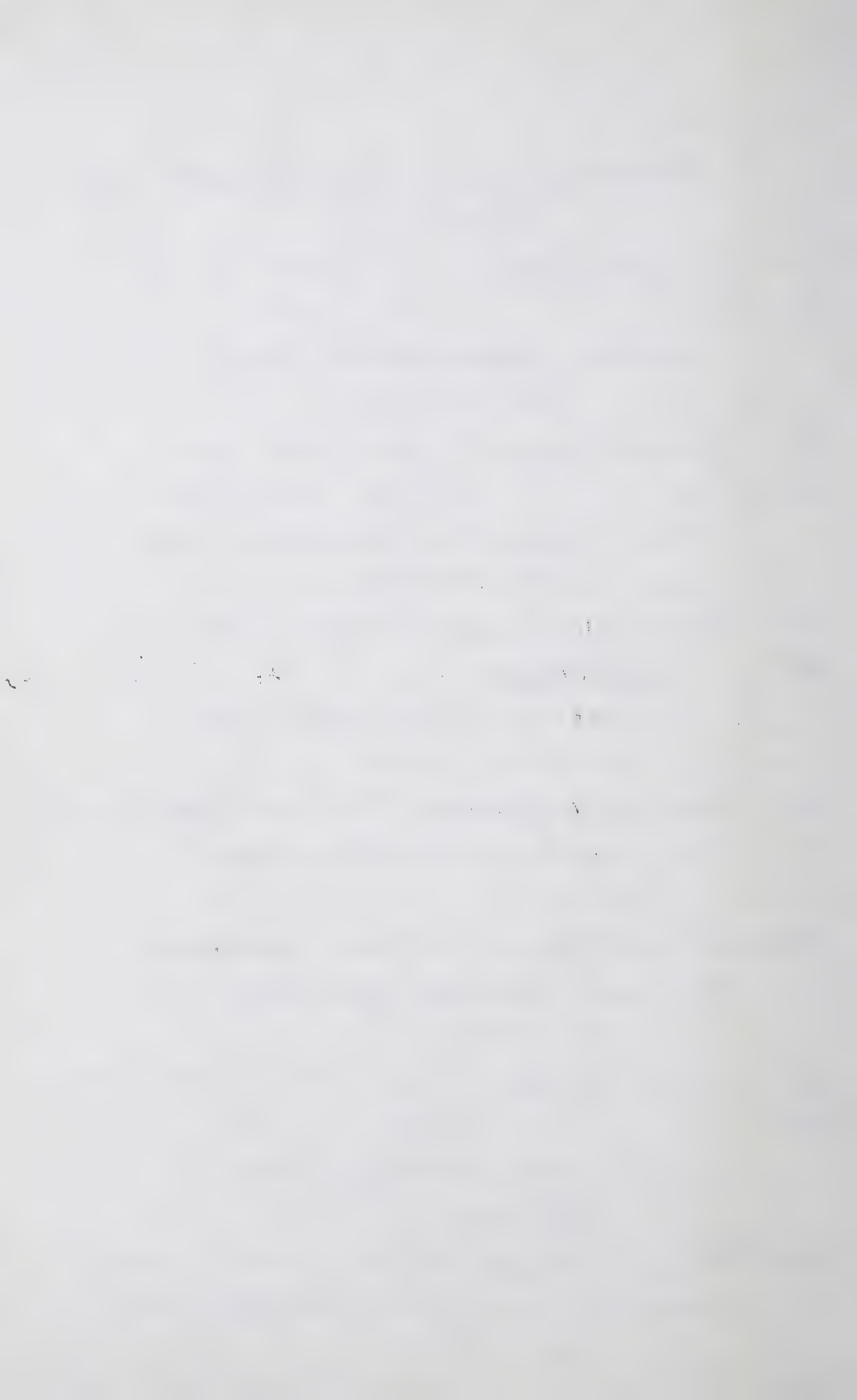
1967. ♂ Pipilo fuscus 61.4 gms ad. skull. Testis 2 mm.

1968. ♂^{Set} ? " " 56.7 gms Im. Skull

12 mi. by road S of Monticello, Napa Co., Calif.
Nov. 14, 1948

1969. ♀^{ad.} SKULL Pipilo fuscus 55.0 gms. ovary 5 mm.
9 mi. by road S of Monticello, Napa Co., Calif.
Nov. 14, 1948

1970. ♂^{im.} SKULL Pipilo fuscus 56.7 gms Testis 2 mm.



Pope Valley, 8 mi. NW Monticello, Napa Co., Calif.

Nov. 14, 1948

1971. ^{imm.} ~~15~~ ¹⁵ Pipilo fuscus 51.5 gms ovary 3 mm.

Pope Valley, 10 mi NW Monticello, Napa Co., Calif.

Nov. 14, 1948

1972. ^{ad. im.} ~~15~~ ¹⁵ Pipilo fuscus 59.0 gms Testis 3 mm.

Hamilton Gulch, Berkeley, Alameda Co., Calif.

Dec. 12, 1948

1973. ^{imm.} ~~15~~ ¹⁵ Pipilo fuscus 53.2 gms. ovary 4 mm.

2 1/2 mi. by road E of Weldon, Kern Co., Calif.

Dec. 19, 1948.

1974. ♂ Pipilo fuscus 59.9 gms. Fat. Testis 2 mm.

2 mi. by road E of Onyx, Kern Co., Calif.

1975. ♀ Pipilo fuscus 56.1 gms. ovary 6 mm. Fat.

2 1/2 mi. ~~E of~~ by road E of Onyx, Kern Co., Calif.

1976. ♂ Pipilo fuscus 60.9 gms. Testis 2 mm.

1977. ♂ " " 55.6 gms. Testis 2 mm. Fat.

1978. ♂ " " 57.8 gms. Testis 2 mm.

Gulch east of California Deaf School, 800 ft, Oakland, Alameda Co., Calif.

~~1979. Pipilo fuscus Jan. 9, 1949.~~

1979. ♀ Pipilo fuscus 46.8 gms. ovary 5 mm.

5 mi. ENE Cottonwood, 1 mi. W Ball's Ferry, 350 ft, Shasta Co., Calif.

Jan. 15, 1949

1980. ♂ Pipilo fuscus 64.9 gms. Testis 2 mm. Very fat.

1981. ♀ " " 68.9 gms. ovary 5 mm. Very fat.

1982. ♀ " " 54.3 gms. ovary 6 mm. Fat.

Davis
1949

2 mi. W Dale's, on Payne's Creek, 550 ft, Tehama Co., Calif.

Jan. 16, 1949

1983. ♀ Pipilo fuscus 56.9 gms. ovary 3 mm.
1984. ♀ " " 60.9 gms. ovary 4 mm. Fat.
1985. ♂ " " 65.1 gms. Testis 3 mm.

8 mi. by road E Payne's Creek P.O., 3000 ft, Tehama Co., Calif.

1986. ♂ Pipilo fuscus 63.7 gms. Testis 2 mm. Very fat.
1987. ♂ " " 58.4 gms. Testis 2 mm. Very fat.

Manton, 2400 ft, Tehama Co., Calif.

1988. ♀ Pipilo fuscus 61.4 gms. ovary 7 mm. Fat.

4 mi. by road ^E Chico, 400 ft, Butte Co., Calif.

Jan. 17, 1949

1989. ♂? Pipilo fuscus 59.2 gms. Fat.
1990. ♂ " " 62.1 gms. Testis 2 mm. Fat.

6 mi. by road ^E Chico, 500 ft, Butte Co., Calif.

1991. ♂ Pipilo fuscus 56.8 gms. Testis 2 mm.

1 mi. NE Jamesburg, Monterey Co., Calif.

Jan. 30, 1949

1992. ♀ Pipilo fuscus 56.0 gms. ovary 9 mm. No fat.

5 mi. by road N^W Jamesburg, Monterey Co., Calif.

1993. ♂ Pipilo fuscus 53.4 gms. Testis 2 mm.

11 mi. by road NW Jamesburg, Monterey Co., Calif.

1994. ♂ Pipilo fuscus 59.9 gms. Testis 5 mm.

Lucia, Monterey Co., Calif.

Jan. 31, 1949

1995. ♀ Pipilo fuscus 54.4 gms. ovary 6 mm.

1996. ♂ " " 58.5 gms. Testis 2 mm.

4 mi. by road E Cambria, San Luis Obispo Co., Calif.

Jan. 31, 1949.

1997. ♀ Pipilo fuscus 52.7 gms. ovary 5 mm.

7 1/2 mi. by road E Cambria, San Luis Obispo Co., Calif.

1998. ♀ Pipilo fuscus 61.2 gms. Testis 3 mm.

11 1/2 mi. by road E Cambria, San Luis Obispo Co., Calif.

1999. ♂ Pipilo fuscus 54.6 gms. Testis 2 mm.

8 mi. by road W Paso Robles, San Luis Obispo Co., Calif.

2000. ♀ Pipilo fuscus 52.8 gms. ovary 7 mm. 2 follic. sl. enl.

4 mi. SW of Chester, Plumas Co., Calif.

April 30, 1949

2001. Ambystoma macrodactylum

2002. " (coll. by Betty R. Davis)

Gillis Canyon, 6 mi. ESE Shandon, San Luis Obispo Co., Calif.

May 1, 1949.

2003. ♀ Pipilo fuscus (coll. by Dan McMillan) 55.1 gms. brood patch ovary 10 mm.

2004. ♀ " " " " " 54.3 gms. brood patch ovary 8 mm. h. 2 mm.

1 mi. N of Berkeley, Contra Costa Co., Calif.

June 8, 1949

2005. ♀ about today Pipilo fuscus 59.0 gms. Brood patch. ovid. expanded.

2006. ♂ " " 54.9 gms. Testis 16 mm.

9 mi. NNE of Healdsburg, Sonoma Co., Calif.

June 12, 1949

2007. ♂ Pipilo fuscus 57.1 gms. Testis 15 mm.

Davis
1949.

Red's Meadow, 7500 ft, Sierra Nat'l For., Madera Co., Calif.

June 30, 1949

2008. ♀ no
emb. Sorex 4.2 gms. 97-41-11-4

2009. ♂ Zapus 22.1 gms. 228⁺-133⁺-31-16

Killed July 1, 1949

2010. ♂ juv. Picoides arcticus 46.7 gms. SKULL UNOSSIF. Testis 2 mm. caught alive June 28, 1949.

3 mi. N of Red's Meadow, 8000 ft, Sierra Nat'l For., Madera Co., Calif.

July 1, 1949

2011. ♂ Sorex 5.4 gms. 96-42-11-4

Red's Meadow, 7500 ft, Sierra Nat'l For., Madera Co., Calif.

July 3, 1949.

2012. ♂ Sorex 90-40-10-7 4.2 gms.

2013. ♂ " 97-40-10-6 4.6 gms.

2014. ♂ " 89-39-11-6 3.8 gms.

Starkweather Lake, 3 1/2 mi. N Red's Meadow, 8100 ft, Sierra Nat'l For., Madera Co., Calif.

July 3, 1949

2015. ♀ Myiagra olivacea 132.7 gms. ovary 6 mm. Brood patch.

1/2 mi. S Red's Meadow, 7400 ft, Sierra Nat'l For., Madera Co., Calif.

July 5, 1949

2016. ♀ Myiadestes townsendi sp. B. R. Davis. 32.3 gms ovary 6 mm. Brood patch

Red's Meadow, 7500 ft, Sierra Nat'l For., Madera Co., Calif.

July 6, 1949

2017. ♀? Sorex palustris 9.1 gms. 142-65-17-6

2018. ♂ Sorex 6.0 gms. 102-40-10-6

2019. ♀ no
emb. " 3.1 gms. 104-44-10-6

July 7, 1949

2020. ♂ Zapus 15.9 gms. caught July 5, 1949 212⁺-130⁺-27-13

2021. ♀ no
emb. Sorex 3.8 gms 95-38-10-6

Davis
1949

Red's Meadow, 7500ft, Sierra Nat'l For., Madera Co., Calif.

July 7, 1949.

2022. ♂ Sorex 6.0 gms 104-44-11-5

2023. ♀^{no} emb. Sorex 4.5 gms 101-41-12-6

July 9, 1949.

2024. ♂ Sorex 6.2 gms. 107-42-11-6

3 mi. SSW Gold Hill, 1500 feet, Jackson Co., Oregon.

October 17, 1949

2025. ♂^{skull} Pipilo fuscus 58.8 gms. Testis 2 mm.

1 mi. S Gold Hill, 1500 feet, Jackson Co., Oregon

2026. ♀^{SKULL} Pipilo fuscus 59.1 gms. ovary 4 mm.

3 mi. SSW Gold Hill, 1500ft, Jackson Co., Oregon

~~2027. ♂^{SKULL} Pipilo fuscus 62.2 gms. Testis 2 mm.~~

Oct. 18, 1949.

2027. ♂^{skull} Pipilo fuscus 62.2 gms. Testis 2 mm.

Oct. 19, 1949

2028. ♂^{SKULL} Pipilo fuscus 56.0 gms. Testis 3 mm.

6 mi. S and 2 mi. E Bridgeport, 6900ft, Mono Co., Calif.

May 30, 1950

2029. ♂ Petrochelidon pyrrhonota (coll. G.W. Salt) 22.9 gms Testis 9 mm. ^{Brood} Patch.

2030. ♀ " " " " 24.4 gms ovary 8 mm.

Journal

Furnace Creek Ranch, 178 ft. below sea level,
Death Valley, Inyo Co., Calif.

Feb. 11, 1948.

Hunted around Furnace Creek Ranch from 10 a.m. until 12:30 p.m. Spent about 40 minutes in Tamarix groves on south side + southwest corner of ranch. Day rather overcast, and a high wind kept birds under cover. Saw a few White-crowned sparrows. Crossed ranch fence at southwest corner. About 30 yards south of the ranch fence, in a pile of mesquite snags and dead palm fronds, evidently placed there by ranch hands, noted White-crowned sparrows, linnets, and 1 Shrike, which was collected (J.D. 1920) from the top of a mesquite snag. This bird had several large nematodes subcutaneously in the region of the occiput and throat, and along the trachea. These worms are now in the collection of Betty R. Davis. Then crossed the ranch and hunted on golf course and at edge of Tamarix groves on north side of ranch adjacent to airport. On golf course, noted 2 Killdeer along overflow ditch, 1 Say Phoebe, numerous linnets and Mountain Bluebirds. Then hunted in date orchards just south of, + bordering, golf course. Birds fairly numerous here. Robins common in and

Davis
1948

Turnautree Ranch, 178 ft. below sea level,
Death Valley, Inyo Co., Calif.

Feb. 11, 1948. beneath date palms (10⁺). Audubon Warblers (5), Black Phoebe (1), Red-shafted Flicker (1), Song Sparrow (2), English Sparrows (5[±]), and 1 Lewis Woodpecker. The latter bird I shot at and missed. When first seen, it was looking around the bole of a date palm. It flew, after a few minutes, to another date palm, and remained clinging to the bole just beneath the lowest fronds. In this position it was observed through 9 x 35 binoculars, and the gray collar clearly seen. I approached the bird and shot at it, but it flew away, obviously wounded. When last seen, it rose sharply above a line of tall Tamarix and then glided down out of sight behind the trees. Search for it proved fruitless. In p.m., while setting traps in Tamarix at SW corner of ranch, saw a large Falcon fly by, & probably F. mexicanus. 2 robins noted on ground beneath Tamarix. On a fallen Tamarix noted large splash of bird excreta, & beneath the tree mammal fur (Peromyscus?). In another spot, noted numerous yellow feathers in tufts (Meadow-lark). The day as a whole was very windy, & poor for collecting.

Furnace Creek Ranch, 178 ft. below sea level,
Death Valley, Inyo Co., Calif.

Feb. 12.

Hunted in a.m. from 8:30-11:15. In date orchard, saw 5 or 6 English Sparrows, & heard several others. Shot at 1 ♂ but missed, and never got another chance at one all a.m. They are very wild, & stay high in the date palms. Robins were abundant, at least 30 being noted. Saw 2 Thickers, many Audubon Warblers, several Song and White-crowned Sparrows. On telephone wires near golf course noted several Mourning Doves. On golf course proper, Robins, Meadowlarks (10+), Audubon Warblers, Finches, Pipits (3), and Mountain Bluebirds. Followed tule-bordered irrigation overflow through mesquites to a distance of about 1/2 mi. West of ranch fence. Flushed a small group of duck which circled repeatedly but never came close enough to be identified. Song Sparrows very common in tules & mesquites. 1 Ruby-crowned Kinglet in mesquite. 1 Say Phoebe in mesquites near overflow. In cottonwoods along Hwy 190 about 10 yds. east of Ranch fence, 1 Mourning Dove and 1 Ruby-crowned Kinglet. On Hwy 190, on way to Bad Water, at turn-off to Golden Canyon, 1 Red-tailed Hawk soaring. 3 Ravens between Furnace Creek Ranch & Bad Water. At about 5 p.m., heard Killdeer near overflow about 300 yds west of

Furnace Creek Ranch, 178 ft. below sea level,
Death Valley, Inyo Co., Calif.

Feb. 12.

ranch fence. Short time later, heard Horned Owl hooting, at extreme SW corner of Ranch, either on ranch, or just over the line. Noted 1 ~~(Horned)~~ Marsh Wren actively flitting about a pile of cut & piled Tamarix logs near west end of golf course. At about 10:45^{a.m.} shot a Colinus leucurus as it sat motionless on top of a steel pipe jutting out of a pile of lumber, etc. near west boundary of Ranch, inside the fence. Cheeks were bulging with large, smooth, light brown seeds. Testes large (J. D. 1921). The 7 fleas recovered from this specimen^{are} in collection of Betty R. Davis.

Feb. 13.

In a.m. noted Marsh Wren in pile of cut Tamarix logs adjacent to boggy area at west end of golf course. Shot ♀ Passer domesticus (J. D. 1922) from a flock of about 10 in a date palm at the SE corner of the date orchard near the ranch house. After the shot, the flock scattered and none were heard or seen during the rest of the day. In p.m. hunted along road about 1/4 - 1/2 mi. W of ranch fence. Song Sparrows abundant in grass & tamarisks adjacent to flooded areas. Flock of 11 small ducks (ruddies?) flew overhead. Marsh Wren at edge of flooded area. Shot a Red-naped Sapsucker (J. D. 1924)

Furnace Creek Ranch, 178 ft. below sea level,
Death Valley, Inyo Co., Calif.

Feb. 13, 1948.

from about 15 ft. up in a Tamarix, one of
a grove of several such trees near the flooded
area. Noted a flock of Oregon Juncos, about
35 birds, in mesquite about 20 yds west of
ranch fence. Shot at one & missed, & the entire
flock flew into the dense Tamarix stand just
inside the ranch fence. Went into the Tamarix
grove and found them in Tamarix on ground,
calling. Shot one on ground (J. D. 1925).

Other birds noted around ranch: - Audubon Warbler,
Robin, Flicker, Ruby-crowned Kinglet, Song Sparrow,
White-crowned Sparrow, Killdeer, Wilson Snipe
(1), Mountain Bluebird, Black Phoebe, Say Phoebe,
Raven, Linnet. Saw Linnet & Mountain Blue-
birds on gravelly, mesquite & creosote bush
flats on way to Midway Well.

Feb. 14.

Hunted around Ranch in a.m. Shot ♂ Eng-
lish Sparrow from date palm. Crop of bird
was stuffed with date pulp (J. D. 1925). For the
benefit of future collectors in this area: - The
Superintendent of Death Valley National Monument is
Mr. T. L. Goodwin. He is very obliging, but cannot
give collecting permits. He must wire the Regional
Director of the National Park Service for permission
to do so. This he did in my case, and was gran-

Furnace Creek Ranch, 118 ft. below sea level,
Death Valley, Inyo Co., Calif.

Feb. 14. Sec'd permission to allow me to collect in the Mon-
ument. The whole procedure took about two days.
However, Mr. Godwin informed me that privately
owned land is not under the jurisdiction of the
National Park Service, & that if I could obtain
permission from the Superintendent of the
Furnace Creek Ranch to hunt on their prop-
erty, I could go without a permit. The Superin-
tendent of the Ranch is Mr. C. A. Scholl, whose
office is at the Furnace Creek Inn. Mr. Scholl
was very obliging, but wanted to make sure
that Mr. Godwin said it was OK for me to
collect before he would give me permission to
do so on Ranch land. When I assured him
it was OK with Godwin, he gave me carte blanche
to collect on the ranch, & all other property
owned by the ranch. He also gave me a note
to the ranch foreman, Mr. Murray Miller.
I looked this gentleman up, & found him very
affable. Since 90% of the birds to be seen are
on the ranch, this is definitely the place to work.
The ~~ranch~~ Monument Naturalist is Mr. E.
L. Floyd Keller. He is new here, having been
transferred from Petrified Forest, Arizona
about 2 months ago. He knows very little
about the Monument or its natural history,

Davis

948.

Furnace Creek Ranch, 178 ft. below sea level,
Death Valley, Inyo Co., Calif.

Feb. 14. And doesn't seem very sharp or very interested.
Future workers here will not find him very
helpful. The Chief Ranger is a Mr. O. Gordon.
I did not meet him, but he is evidently
very much interested in birds, and
actively observes them. He also has added to
& generally kept up the check-list prepa-
red by French Gilman, & could definitely
be helped. He has the amended copy of
Gilman's check list in his files. Gil-
man listed 185 species. There have been
added to this White Pelican, White-winged
Dove, Chukar Partridge, & Starling. Mr.
Godwin also observes birds, & it was he
who first observed the Chukar Partridge.
In p.m. went to Ryan & took narrow gauge
railroad trip through old borax mines,
a very enjoyable trip.

Feb. 15. Hunted in a.m. One ♂ English Sparrow
from date palm (1926). This bird also
had crop stuffed with date pulp. At
least 5 Red-shafted Flickers in date or-
chard. Lights noted on wire fence near date
orchard. In p.m. went to Death Valley Scotty's
Caste. English Sparrows very abundant there.
This is 53 miles north of Furnace Creek Ranch.



Davis.
1948.

Furnace Creek Ranch, 178 ft. below sea level,
Death Valley, Inyo Co., Calif.

Feb. 16, 1948.

In a.m. left ranch and proceeded south down valley on west road, the one that passes near the old Eagle Borax Works and Bennett's Well. Occasional birds were seen on the valley floor, but none could be approached closely enough for identification. Near Tule Springs saw 1 Red-tailed Hawk perched in mesquite. At Eagle Borax Works, there are Tamarix groves and an extensive series of tule-bordered open pools and sloughs. Several coot were seen, and about 70 ducks, approximate distribution: 30 green-winged teal, 25 haldgate, 10 gintail, and 5 mallard. Also noted: - Eng & Farrow, Ruby-crowned Kinglet, Marsh Wren. At Bennett's Well, ~~saw~~ Betty saw a hawk, probably a Prairie Falcon. Also 1 Shrike just north of the well. A mile or two south of the well saw 1 Prairie Falcon, 1 Red-tailed Hawk, and 1 Shrike. Proceeded south until we came to junction of our road & the east (Bad Water) road, then continued south to Saratoga Spring. To reach Saratoga Spring, proceed exactly 25 miles by road south of junction of East & West highways. Turnoff to Spring is marked by standard road sign. Spring is 2 1/2 mi. from main road (to Baker). At the Spring there are

Davis
1948.

Furnace Creek Ranch, 178 ft. below Sea level,
Death Valley, Inyo Co., Calif.

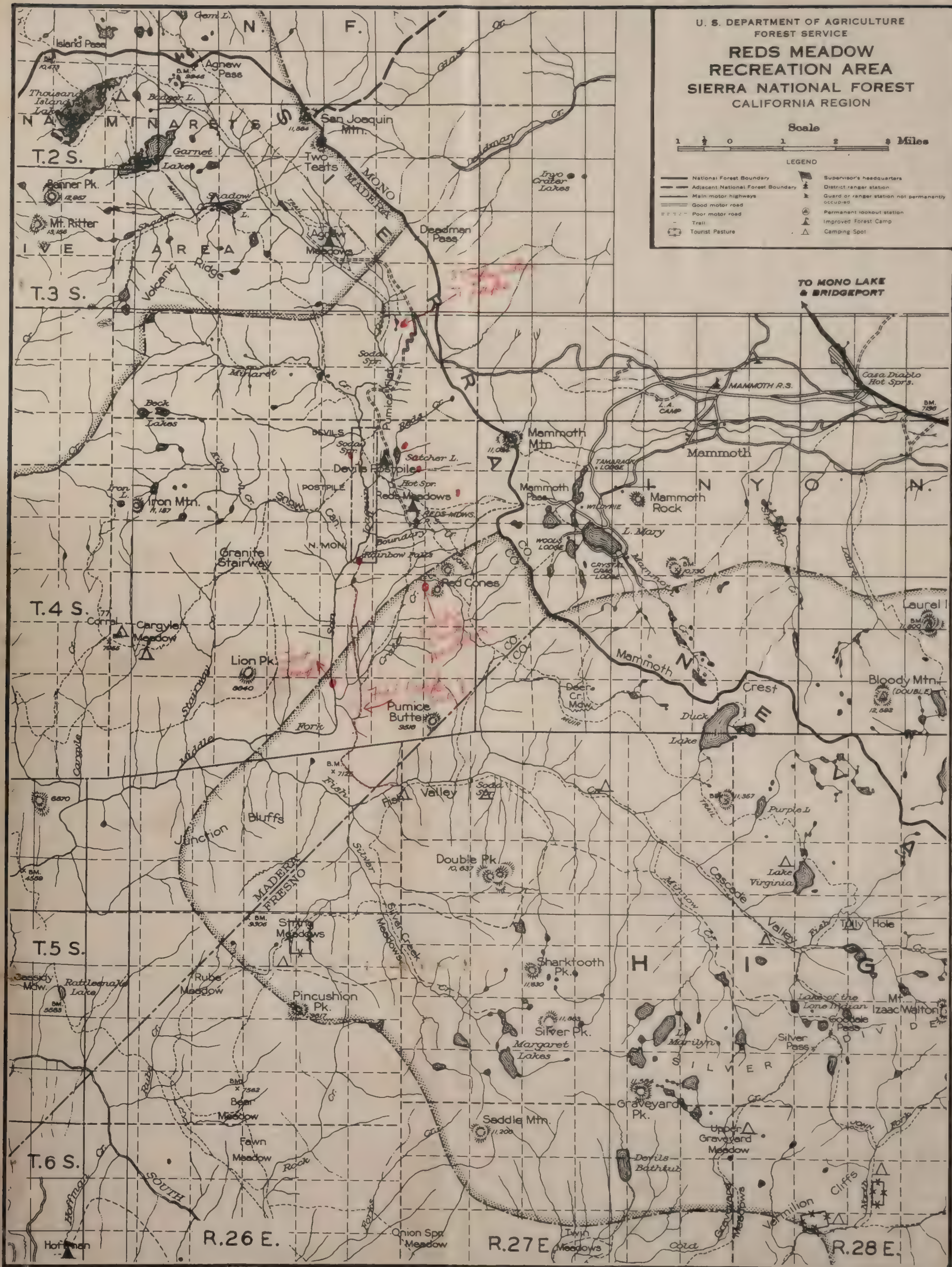
Feb. 16.

ran shack old bathhouses, and a stone house,
occupied by an old man, with whom we held
no conversation. The spring apparently issues
from the base of a large rock, & the water smells
sulphurous. This water feeds a small
clear pool, in which Cyprinodon are ab-
undant, & then supplies a large area of
tules & open ponds, one of which is about
1/4 mile in diameter, & surrounded by tules.
On this large pool were 2 Green-winged teal
and about a dozen coot. On the far shore, 1
blackbird, apparently a Brewer, was noted.
Marsh Wrens were common in the tules,
and several Song Sparrows were also seen.
In Tamarix, and on & about the bathhouses,
were noted Say's Phoebe (1), Oregon Junco (1),
and Red-shafted Flicker on an old tower above
the stone house. Ruby-crowned Kinglet noted
in mesquite near house. Altitude at the
spring 410 ft. by my altimeter. Then we
proceeded back up the road to the junction, &
took the east highway back to the ranch.

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
**REDS MEADOW
RECREATION AREA**
SIERRA NATIONAL FOREST
CALIFORNIA REGION

Scale
1 0 1 2 Miles

- LEGEND
- | | |
|---|--|
| — National Forest Boundary | Supervisor's headquarters |
| - - - Adjacent National Forest Boundary | District ranger station |
| — Main motor highways | Guard or ranger station not permanently occupied |
| — Good motor road | Permanent lookout station |
| - - - Poor motor road | Improved Forest Camp |
| Trail | Camping Spot |
| — Tourist Pasture | |



7500 ft.
Red's Meadow, Sierra Nat'l. For., Madera Co., Calif.

July 3, 1948.

Arrived last night + put up camp. There are many people here, and the camp ground is nearly full. Mostly fishermen. The road from Mammoth Lakes P.O. to this spot is good for about 5 miles, but the last 5 miles involve a sharp drop from 9000 to 7500 ft., and the road has many sharp hairpin turns. Can be negotiated by a truck, and many of the people here brought trailers in O.K. The country around here is red fir - lodgepole pine - Jeffrey pine, with very little understory. The ground is very dry and dusty, but there are numerous creeks bordered with lush growth of alder, willow, sedges, + what appears to be Ribes. There are also numerous soggy, grassy meadows, bordered by fir + firs. In a.m. hiked to Rainbow Falls, on headwaters of San Joaquin River, some 2 miles away. Looked for black swifts, but saw none. On way back, took a ♀ Williamson Sapsucker from a lodgepole at extreme SE corner of Devil's Postpile Nat'l Monument. This bird had several large black ants in its bill when shot. In p.m. went to Devil's Postpile + Soda Spring meadow. After supper Betty set traps along a creek near camp, and

Davis
1948

Red's Meadow, 7500 ft., Sierra Nat'l For., ^{Calif.} Madera Co.,
July 3, 1948.

looked for birds.

Birds observed today: -

Williamson Sapsucker, Red-breasted Sapsucker,
Pewee, Traill Flycatcher, Violet-green Swallow,
Mountain Chickadee, Robin, Hermit Thrush,
Ruby-crowned Kinglet, Pileolated Warbler, Toluie
Warbler, Audubon Warbler, Western Tanager,
Cassin Finch, Oregon Junco, White-crowned Sparrow,
~~Myiophobus~~, Pine Siskin, Red-breasted Nuthatch.

July 4, 1948.

In a.m. hunted around Satcher Lake, about 1/3
mile NNE of camp. Heard 2 Sapsuckers drumming,
probably Williamson's. Birds not too plentiful
in this country, save along water courses. On
Satcher Lake noted 1 California Gull. Saw red-
breasted sapsucker, but unable to shoot it.
3 white-headed woodpeckers seen at S end
of Satcher Lake. Returned to camp, and then
hiked SW of camp. Heard 1 Stellar Jay + 2 red-
breasted nuthatches. These birds both very
scarce here. Noted hairy woodpecker. Col-
lected singing ♂ Cassin finch from about 50
ft. up in a Jeffrey pine. ♀ flew out as I
shot. Around camp, saw a redbreasted sap-
sucker, probably same one noted yesterday.
About 4:15 p.m. Betty + I walked NW of camp,

Red's Meadow, 7500 ft., Sierra Nat'l For., Madera Co., Calif.

July 4, 1948

and running along a large down log we saw a large, bushy-tailed marten. It was brownish, with black on the head. It was too large for a pine marten, & too small for a wolverine, so must have been a fisher. I chased it, hoping to get a shot at it, but it was incredibly fast and graceful, bounding along the ground, finally leaping about 2 feet onto the bole of a tree, then springing down to the ground and disappearing between two red firs. A pile of matted porcupine quills noted at ~~at~~ at Cher Lake in a. m. Maybe associated with the presence of this animal. According to Ingles, fishers are adept at preying on porcupines. No new birds noted. Many of the firs here are white firs. The dominants are thus: red fir, white fir, Jeffrey pine, lodgepole pine.

July 5, 1948.

A walk west of camp yielded 1 red-breasted sapsucker collected. Williamson Sapsuckers seen and heard commonly. Large birds perched on very top of a dead conifer could not be identified with cer-

Davis
1948

Red's Meadow, 7500 ft, Sierra Nevada, Madera Co., Calif.

July 5, 1948

Faintly. Only new bird seen today = Townsend Solitaire (r). Although Grinnell in "Animal life in the Yosemite" states that Williamson + red-breasted sapsuckers are altitudinally complementary, with little overlap, they must be considered as both being common at this locality, red-breasted has been seen every day, Williamson July 3rd + today, & in numbers.

Some of the commoner birds hereabouts are: - Junco (everywhere), white-crowned sparrow (abundant near moist places), Oregon junco (everywhere), Trail flycatcher + pileolated warbler (both near water courses). Williamson sapsucker (in conifers), robin (everywhere), Western Tanager + Cassin Finch (high in conifers), ruby-crowned Kinglet (everywhere), Audubon Warbler (mostly in conifers). Hummers (not yet identified but undoubtedly calliope) are common in Alder thickets near streams. Less common are Hermit Thrushes, pine siskins, + Mountain chickadee. Hairy woodpeckers are common. Red-breasted nuthatch + Steller Jay are rare. Heard Pacific Night hawk at about 9 p.m.

Red's Meadow, 7500 ft., Sierra Nat'l For., Madera Co., Calif.

July 6, 1948.

Hunted west of camp in a.m. Heard pair of Steller Jays, & collected one from a fir. Red-breasted nuthatches heard several times. Saw Williamson, but not red-breasted, Sapsuckers. The birds here seem to prefer open forest of large red & white firs and Jeffrey firs, & avoid the denser lodgepole pine areas. The only new bird noted today was red-tailed hawk, heard screaming above camp. The large lutes seen previously are probably all of this species. About 6 p.m. saw a thin brown, black-tipped tail disappear over the edge of the streambank behind the tent, and figured it was weasel. At the same time, a pair of juncos, a pair of ruby-crowned Kinglets, and an Audubon warbler, and numerous white-crowned sparrows, moved thru the alders & willows along the stream, incessantly giving alarm notes. A short time later the weasel dashed across the roots of a tree by the stream, crossed the road with a single bound, & disappeared into the grass. It was small, and might have been a Least weasel, but it moved so rapidly that I could not be sure. The birds continued to mob for some time, but the weasel never reappeared.

Red's Meadow, 7500 ft., Sierra Nat'l For., Madera Co., Calif.
July 6, 1948

Saw one medium-sized bat fly high over camp at dusk. Betty has been trapping mammals for Hypanosomus, & the common forms are Zapus parvifrons, Peromyscus maniculatus, & a brown Sorex (obscurus?). Sorex palustris has been taken only once. One of her caged Zapus escaped during mid-afternoon, & made for the stream with great leaps. We chased it for some time, and on at least 2 occasions it took to the water and swam proficiently.

July 7, 1948

Hunted north of Soother Lake and then circled around & returned via the Devil's Postpile. Heard Jays once, & Redbreasted Nuthatches several times. They must be regarded as fairly common here. Collected no birds. Saw redbreasted sapsucker fly from a willow thicket at edge of a stream flowing thru a large meadow. Saw songsparrows (2) & Sierra Creeper (1). In camp around 11 saw five or Olive Warbler singing from about 15 ft. up in a lodgepole pine by the stream. When I squeaked it flew down into the alders and came quite close. Collected red-breasted sapsucker from 25 ft. up in a lodge-

Red's Meadow, 7500 ft., Sierra Nat'l For., Madera Co., Calif.

July 7, 1948

Spoke fine right in camp. Probably the bird we have seen nearly every day around camp. Olive-sided flycatchers are heard nearly every day early in the a.m. before sunup.

July 8, 1948

Hiked to a point about $2\frac{1}{2}$ mi. below Rainbow Falls. The country here is about 1000 ft. lower than camp, i.e. 6500± ft. Away from the river the trees become larger & very widely spaced, and there are numerous patches of manzanita and Ceanothus cordulatus, from which I failed to start any Fox Sparrows. Heard several Steller Jays & mountain quail, saw Flickers and 1 Slenderbilled Nuthatch. Went back along trail towards Rainbow Falls about a mile, then took an unposted side trail which led me to a ridge of fairly heavily timbered, with scattered patches of Ceanothus cordulatus, from which I collected a pair of Fox Sparrows. By this time I had wandered far from the trail, became turned around, and crossed three ridges before I picked up another trail. This I followed until I went 1000 ft (by tape sheet) down a very steep grade, coming out on the aspen-covered bank of a large stream. Here I met

Red's Meadow, 7500 ft., Sierra Nat'l For., Modesto, Calif.

July 8, 1948.

A fisherman, who told me that I was on Fish Creek, 9 miles from camp, and that I would have to go back along the same trail I had taken. It was then 3:45, so I started at once, reaching camp at about 8:45, having gone between 20-25 miles, much of it over rough territory, without benefit of trails. Being fatigued a good deal of the time, my observations follow as impressions, for the most part. From about 8000 ft on up, the timber either drops out or becomes widely spaced, the trees being large. There is a fair amount of manzanita, leucodermis, and another widely distributed low shrub. Steller Jays are common along the timbered ridges. Sierra Grouse were heard booming several times from the higher ridges above me. Three grouse were flushed. The first an adult ♀, did not fly, but slowly walked through a very dense alder thicket by a stream. I could not shoot because of the dense growth, but watched the bird for several minutes. As I left the thicket and entered some tall grass, a single young bird flushed at my feet and flew into a conifer. It was well grown and the flight was strong & rapid. The second bird flushed was an adult,

Davis
1948

Red's Meadow, 7500 ft.; Suirahat For., Madera Co., Calif.

July 8, 1948

set undetermined. It was in the grass + alders by a boggy spot on the trail. The third was seen walking slowly at the edge of an alder thicket by a stream. It was a hen. As I walked toward her, 5 young flew from the grass surrounding the thicket. They were smaller than the first young flushed, but flew well. Mountain quail were heard hooding at least 4 or 5 times. Heard one Cassin Vireo in the fir + firs on a high ridge. Flickers were seen commonly. Sapsuckers were heard drumming often. Probably Williamson's. The birds seem about the same on the ridges as down here, save for the Grouse + quail. At Fish Creek, the fisherman told me that he had killed one rattler, + chased another down a squirrel burrow. The only mammals noted were golden mantled + Peechey ground-squirrels. Beldingi seems to be replaced by Peecheyi (higher up) lower down the.

July 9, 1948

In camp all day.

July 10, 1948

In a.m. walked toward Rainbow Falls, but turned off on Fish Creek trail just before we hit the falls. Saw 1 black swift flying

Red's Meadow, 7500 ft., Sierra Nevada, Madera Co., Calif.
July 10, 1948.

high over a clearing in the forest. Noted a pair of red-breasted sapsuckers about 120 ft up at the very top of a fir. They made short sallies from their perch, turning in mid-air & returning to the tree as if they were catching insects on the wing. Pygmy owl calls & squeaks brought the usual red-breasted nuthatches, Audubon warblers, Western Tanager, Kinglets, Chickadees, and a Pygmy nuthatch. Olive-sided flycatcher heard calling near a small stream. In p.m. while in camp, heard ruby-crowned Kinglet calling loudly, soon joined by juncos, and Audubon warblers. Thought weasel might be in camp. After a few minutes, a fisherman visiting us spotted a weasel creeping thru the alders across the stream back of our tent. I shot the weasel, a ♀. About 1/2 hour later, while skinning, heard the birds calling again. Told Betty to see if a weasel was around camp, & she saw the ♂ sniffing about the exact spot where I had dropped the ♀. I shot, but missed, & the weasel left the alders & dashed downstream along the open stream bank, its tail erect and almost at right angles to the axis of its body. It disappeared in some Gnissedum & grass. I

Davis
1948

Red's Meadow, 7500 ft., Sierra Nevada For., Madera Co., Calif.

July 10, 1948.

resumed skinning, but the bird alarm chorus resumed in about 10 minutes. The ♂ was back at the spot where I had shot the ♀. I collected it. The stomach of the ♀ was empty. That of the ♂ contained remains of 2 nestling birds, species unknown. 1 bill, 4 legs + feet, and a whole wad of black pinfeathers (junco?) The ♂ had 2 large fleas on it, and after the ♀ was skinned, a whole swarm of lice crawled from the fur. It would seem that the ♂ left the lair, fed, returned, the ♀ then left, was shot, and the ♂ then began to search for the ♀ when she failed to return. At 8:15 p.m., saw 1 Myotis-sized bat and 1 larger bat hawking for insects over camp.

July 11, 1948.

In a.m. drove to Starkweather Lake, 8000 ft., about 3 mi. N of camp. As we parked the truck at the lake's edge, Betty noted a large red + gray bird, in a low fir. When shot, proved to be a pine grosbeak. Shot another at top of tall conifer sometime later, but it stuck in the tree. White-headed woodpeckers + Williamson sapsuckers very common

Davis
1948

Red's Meadow, 7500 ft., Sierra Nat'l For., Madera Co., Calif.

July 11, 1948

about lake + nearby ponds. 1 whitebreasted
nuthatch noted. Tringa mercedensis and
Tringa monticola grow about the lake.
Possibly accounts for presence of pine gros-
beaks. In camp in p. m.

July 12, 1948.

Hunted about 5 miles along trail to Fish Creek.
2 Thomomys were seen on rockst logs next to
streams. One was collected. Several Gerrhon-
tus were seen crawling through underbrush, and
one was collected, but later escaped. About 5 miles
from camp, saw several grouse fly into an alder
thicket at the edge of a meadow dissected by small
streams. I fired at one, but it was a juv. enal.
The ♀ adult + another juv. enal flew in oppo-
site directions. The hen remained nearby, chuc-
king to the other juv. enal, but she remained deep
in the alders + I never saw her again. Steller
jays heard several times along the trail. Shot
a red breasted sapsucker, but it remained
hanging in the tree. A pair of differs were noted
uttering high, piping notes, by a stream 5 miles
up the trail, where we reached our farthest
point for the day.

July 13, 1948

In camp all day, save for a short trip to

Red's Meadow, 7500 ft., Sierra Nat'l For., Modoc Co., Calif.

July 13, 1948

Starbweather Lake late in a.m. Nothing of interest, save for Mountain Chickadee repeatedly entering nest hole in dead conifer, about 8 ft from ground. This nesting bird had also been seen July 11.

July 14, 1948

Hunted all the way around Locher Lake in a.m. Saw 2 Garter Snakes, collected one. Birds few & not particularly interesting. In camp in p.m.

July 15, 1948

In a.m. went to Rainbow Falls. At 8:20 a.m. saw about 10-12 Blackswifts wheeling over the falls, and diving down and circling over the river below the falls. Several birds were in pairs, chasing one another. At 8:35, they disappeared, apparently flying behind the falls and hanging up. Went to another smaller falls about 1/2 mile below Rainbow Falls, and at about 9:15 saw 5 Swifts circling over the forest at a great height. Went about 1/2 mi. farther downstream, then returned to Rainbow Falls. Swifts came out again at 11 a.m., about 12-15 birds. They circled and dove for a while, then disappeared. Two were seen hanging up on the sheer rock wall of the west bank right next to the falls.

Davis
1948

Red's Meadow, 7500 ft., Sierra Nat'l For., Modesto, Calif.

July 15, 1948.

One remained about 40 minutes before flying, the other about an hour. From time to time, small groups of birds, from 2-4, would come out and fly about, always downstream, & mainly over the west bank.

The last flight involving 12 or more swifts took place at about 11:45. No others were seen from then until 1:20, when we left. I estimate that from 15-20 birds were seen, that most of them hang up behind the falls, & there were several birds that seemed to be paired in flight, one closely following the other, through all of its twisting & turning. That some of the swifts ^{roost} ~~are~~ outside the falls was evidenced by 2 seen on the sheer rock wall on the west side of the falls. Noted a dipper flying over Rainbow Falls and perching on the west wall at 8:20 a.m. and on both occasions of our visit to the falls today saw a white breasted nuthatch carrying food to a nest cavity in a dead red fir, the entrance hole being about 10 ft above the ground.


July 16, 1948

Hunted along a small creek west of camp, following it about 1/2 of a mile until it


Davis
1948

Red's Meadow, 7500 ft., Sierra Nevada, Calif.

July 16, 1948

went over a cliff & emptied into the San Joaquin. Nothing of interest noted. Collected 1 garter snake crawling thru some grass next to the creek. Returned to camp, & by the creek saw 1 Rufous Hummer perched on a low lodgepole pine by the creek. Later found Oregon junco N/4 just above the creek flowing by our camp. The nest was set in a hollow formed by a bunch of coarse dry grass, fallen over toward the stream, and with a cleft in it. 

July 17, 1948

Went to Rainbow Falls in a.m. Saw only 4 black swifts flying, none emerging from or flying behind the falls. The water level was considerably higher than on July 15, and it is possible that the exit from behind the falls was cut off temporarily, denying entrance & exit to the birds. In p.m. walked along San Joaquin. near the Devil's Postpile, saw 2 Spotted Sandpipers foraging along stream. Later, talked to the ranger, Mr. Verrett, who showed us a hummer's nest containing 2 nearly full grown young, built in a loop of rope hanging from the eaves of his roof.  He also told us that he had been

Red's Meadow, 7500 ft., Sierra Nevada Fr., Madera Co., Calif.

July 17, 1948

informed that someone had shot a large hawk and thrown it in the garbage can at Star Weather Lake. We drove to the lake & recovered the remains, which turned out to be those of a ♀ Sierra grouse.

July 18, 1948

Hiked to Crater Creek Meadows, which lie at the east base of the Red Tones, about $4\frac{1}{2}$ mi. from camp. The season is apparently advancing, judging from the large numbers and wide variety of flowers appearing. On the way, ran across a pair of Arctic Three-toed woodpeckers, of which the ♂ was collected. The ♀ remained nearby, flying from tree to tree, and uttering a harsh, 2 part note. Had one shot at her, and missed. At Crater Creek Meadow, collected one Thamnophilus, the only one seen, and several Buteo caninus. These latter are abundant, but nearly all ♀, only 1 ♂ being taken. They often entered ground squirrel burrows when alarmed, sitting within a few inches of the entrance. Rana boylei is very common here, although none were collected. On the way back, saw a ♀ Picoides arcticus, about 1 mile airline from where I had collected the ♂, whether it was the same ♀ or another,

Davis
1948

Red's Meadow, 7500 ft., Sierra Nat'l For., Inyo Co., Calif.

July 18, 1948

I cannot say.

July 19, 1948

Spent most of the day packing. Toward evening, noted both Song and Lincoln Sparrows in conifers at edge of a large meadow a few hundred yards from camp. Spent some time watching a ♀ hummer perching, & feeding on castilleja. Apparently a calliope.

July 20, 1948

Left for Berkeley at 8:00 a.m. On way out, just after turning onto Hwy 39 S from Mammoth Lakes road, saw a pair of weasels run across road. Reached Berkeley via Tioga Pass & Big Oak Flat Road at about 11:30 p.m.

Unnoted List

Rana boylei. Common resident along streams & at edges of lakes.

Bufo canorus. Very common at Lake Creek Meadows.

Thamnophis elegans elegans. Fairly common at 7500 ft & above. In vicinity of lakes, streams, & wet meadows. 3 collected

Davis
1948.

Red's Meadow, 7500 ft., Sierra Hotel for, Mammoth, Calif.
July 20, 1948.

Thamnophis elegans couchii. Below 7500 ft.,
on rocky, brushy & log littered stream banks.
Two seen, 1 collected.

Buteo jamaicensis. A large Buteo, probably
of this species, was seen on several occasions.
Definitely recorded when heard screaming on
one occasion.

Dendragapus fuliginosus. Common along
Fish Creek trail at about 7000-7500 ft. Hens
with juvenals (2-5) seen on 3 occasions.
♂'s heard booming on higher ridges above
Fish Creek trail. Remains of 1 ♀ found in
trash can at Starkweather Lake.

Oreortyx pictus. ♂ heard hooting at lower
elevations below Rainbow Falls, and along
Fish Creek trail.

Actitis macularia. 2 seen at Soda Springs
Meadow.

Larus californicus. 1 seen on Sutter Lake.
(Common near Mammoth P.O. & at Gull Lake.)

Chordeiles minor. 1 heard in evening.

Rephoecetes niger. A colony of 20-30 birds
lives behind the falls at Rainbow Falls. No
evidence secured to indicate breeding.

Scaphorus rufus. 1 ♂ seen at Red's
Meadow.

Red's Meadow, 7500 ft., Sierra Nat'l For., Mariposa Co., Calif.

July 20, 1948

Stellula calloptera. Never satisfactorily identified. Presumably, most of the many hummers noted were of this species, as was a nest containing 2 nearly full-grown young. Restricted to vicinity of wet meadows and streams.

Colaptes cafer. Common at lower altitudes along Fish Creek trail.

Sphyrapicus varius. Common throughout, but less numerous than nest species.

Sphyrapicus thyroideus. Very common throughout.

Dryobates villosus. Fairly common in conifers near Red's Meadow.

~~Dryobates~~ ^{Dendrocopos} albo-larvatus. Very common throughout.

Picoides arcticus. Rare. 1 pair seen (or collected) + a lone ♀ seen later in the day on trail to Red Tones.

Empidonax traillii. Common in vicinity of streams.

Contopus richardsonii. Abundant throughout.

Tachycineta thalassina. Seen on one occasion.

Cyanocitta stelleri. Common in coniferous forest on ridges along Fish Creek trail.

Parus gambeli. Common throughout. Nesting.

Davis
1948

Red's Meadow, 7500 ft., Sierra Nat'l For., Moderate, Calif.
July 20, 1948

Sitta carolinensis. Uncommon from about 6500 ft. to 7500 ft. Nesting at Rainbow Falls.

Sitta canadensis. Fairly common in coniferous forest.

Sitta pygmaea. Seen on one occasion.

Arctia familiaris. Fairly common in coniferous forest.

Linchus mexicanus. Seen at Rainbow Falls and a pair along stream on Fish Creek Trail.

Turdus migratorius. Common throughout.

Hylorichla guttata. Common both in coniferous forest & near streams.

Myadestes townsendi. Fairly common in coniferous forest.

Regulus calendula. Very common resident throughout. Maximum abundance near streams edged with conifers.

Vireo solitarius. Uncommon. One seen on Fish Creek Trail, one at Red's Meadow.

Ammodramus auduboni. Common in conifers near streams.

Apornis holmei. Uncommon resident of alder & willows near streams. ♂ seen twice at Red's Meadow.

Red's Meadow, 7500 ft., Sierra Nat'l For., Modesto, Calif.

July 20, 1948

Wilsonia pusilla. Abundant resident of alders + willows near streams and lakes.

Micifraga columbiana. One seen flying overhead near Traver Tr. Meadow, 8500 ft.

Trianga ludoviciana. Very common in coniferous forest everywhere.

Arremonops californicus. Common in coniferous forest. Small flock seen repeatedly foraging on ground near stream at Soda Spr. Meadow.

Pinicola enucleator. Rare. ♂ collected at Starkweather Lake.

Spinus pinus. Common in coniferous forest and in patches of conifers in wet meadows.

Junco oreganus. Common everywhere. N/4 at Red's Meadow.

Zonotrichia leucophrys. Very common resident of alders + willows adjacent to streams, lakes, + meadows.

Melospiza lincolni. Seen only at Red's Meadow, in conifers at edge of a wet meadow.

Melospiza melodia. Seen on several occasions at Red's Meadow, in alder-willow scrub + conifers near stream.

Davis
1948

Red's Meadow, 7500 ft, Sierra Nat'l For., Mattole Co., Calif.

July 20, 1948

Casserella ihiaca. Uncommon resident of Ceanothus cordulatus. Only 2 seen, both collected.

Sorex falustris. Fairly common along streams near Red's Meadow.

Sorex cf. obscurus. Very common along streams near Red's Meadow.

Martes pennanti. One large mustelid seen between Red's Meadow + Devil's Postpile Nat'l Mon. assigned to this species.

Mustela frenata, 1 ♂ + 1 ♀ collected at Red's Meadow. A third individual seen along Fish Cr. Trail.

Titellus beecheyi. Common on granite benches along Fish Cr. Trail.

Titellus heldingi. Abundant resident, primarily in meadows.

Titellus lateralis. Common throughout.

Eutamias sp. Common throughout.

Tamiasciurus douglasii. 1 seen near Red's Meadow.

Peromyscus maniculatus. Fairly common at Red's Meadow Campground.

Microtus cf. longicaudus. Uncommon as 3 specimens, not mine, 2 from a wet meadow near Red's Meadow Camp,

Harris
1948

Red's Meadow, 7500 ft., Sierra Nat'l For., Madera Co., Calif.

July 20, 1948

1 from near a stream between Red's Meadow and Devil's Postpile.

Zapus pacificus. Common in grassy places adjacent to streams at Red's Meadow.

Odocoileus hemionus. ~~hemionus~~. Very common throughout.

Davis,
1948.

Berkeley, Alameda Co., Calif., to Naval Ordnance
Testing Station, China Lake, Inyo Co., Calif.

Dec. 17, 1948

Left Berkeley 5:40 a.m. Drove to Bakersfield,
then over Walker Pass to Inyo. Noted
brown jowhees several times on way from
Bakersfield, the first noted a few miles west
of Hobo Hot Springs. On arrival at NOTS, China
Lake, we were passed through main gate and
taken to residence of Dr. William L. Fish,
where we spent the night.

Mountain Springs Canyon, Argus Mts., Inyo Co., Calif.
Dec. 18, 1948

Dr. Fish, Betty and I left reservation at
6:30 a.m. for Mountain Springs Canyon, Dr.
Fish guiding. He recommended that we
approach the canyon from the upper end,
and we took the road to Junction Ranch,
turning off to the upper end of the canyon.
Snow appeared well before the top of the grade,
and within two miles of the upper end of the
canyon, there was a blanket about 3" deep,
and further driving was impossible. The
temperature must have been well below free-
zing. We returned to the turnoff to the lower
end of the canyon, and drove to about 4000 ft.
Salix sp. patches could be seen from the car.
We hiked up the canyon to about 4800 ft., to a

Davis
1948

Mountain Springs Canyon, Argus Mts., Inyo Co., Calif.
Dec. 18, 1948.

group of 3 abandoned shacks. This point shows on the Seale Lake Quadrangle as a small spur road, ending blind. Willow clumps of varying size were encountered all the way up. The dominant shrub in the canyon appeared to be Chrysothamnus ^{C. nevadensis var. ~~nebulosus~~ ~~canadensis~~}, growing along the banks of the wash, and up on the rocky hillsides. The willows were confined to the bed of the wash, save for one clump about 100 ft up the north wall of the canyon. Scattered patches of snow were in evidence at 4000 ft. Up higher it grew deeper, and at about 4300 ft formed a solid blanket, from 1" - 3" deep. It had even drifted under the willows, and the ground in and near the wash was almost completely covered. Not a brown towhee was seen, in the willows, nor on the hillsides. Birds were scarce. A few Bell Sparrows, 2 ruby crowned Kinglets, 2 rock wrens, several juncos + white crowned Sparrows. We investigated two willow thickets, one at 3900 ft, and one at about 3600 ft, this latter being the lowest thicket seen. There was no snow on the ground, but still no towhees were seen. Crescent bush starts at about 3700 ft, and is in evidence from this point to the

Mountain Springs Canyon, Argus Mts., Inyo Co., Calif.
Dec. 18, 1948.

Valley floor. We spent some time at the very mouth of the canyon, thinking that the snow might have forced the towhees to a lower elevation, but none were seen. The general impression is that a ground foraging bird could not survive with a blanket of snow on the ground. They must be forced out of the canyon. Perhaps they scatter out on the desert. At any rate, the willows in this canyon, which presumably account for the presence of P. fuscus, are certainly subjected to a fairly heavy snowfall, and one which deposits enough snow to last for ~~some~~ several days. The air temperature was quite cold, and when we left the canyon at about three p. m., the snow had not started to melt appreciably, although lower down it was more wet than above. It is evident, however, that the three demands of P. fuscus, for brush, open foraging ground, & observation posts, are provided by the vegetation present. Dr. Fish said that he had seen willows in several other places, including Wilson Canyon, to the south. It was evident that a visit to this locality on the 19th would be a waste of time, so Betty & I drove to Kernville, arriving at about 7:30 p. m.

Devis
1948

Kernville, Kern Co., Calif. to Lancaster, Los Angeles Co., Calif.
Dec. 19, 1948.

Left Kernville, & drove to Hoto Hot Springs, but saw no towhees. Turned back, & drove east. Saw first towhees $2\frac{1}{2}$ mi. east of Weldon, where I collected one. Saw several others between this point and $2\frac{1}{2}$ mi. E of Oryx. Collected a total of 5. Saw about fifteen. These birds are really wild, and all were taken with $\frac{1}{2}$ loads. Their call note is a very feeble "tsip", much weaker and less penetrating than the metallic "chink" of pechilans. The road is bordered on the north by fenced in cattle pastures, with occasional small stands of roadside cottonwoods. To the south it is bordered by unfenced, steep, & very rocky hillsides, sparsely covered by shrubs. Towhees were seen mainly where cottonwoods by the roadside lay off against the rocky hillsides, the birds moving up the hillsides from rock to rock, & bush to bush, and flying from the hillside to the trees. Dense roadside willow thickets were blank for towhees. Two were seen on fencepost right in the middle of Oryx, where I couldn't shoot. Birds were mostly in pairs, but $2\frac{1}{2}$ mi E of Oryx a loose group of about six were seen, & three collected. These birds don't fly in long jumps, but by several short

Davis
1948

Kernville, Kern Co., Calif. to Lancaster, Los Angeles Co., Calif.
Dec. 19, 1948.

flights, in series, can drift steadily away from the collector. When they reach the periphery of their home range they reverse their direction, but keep moving. Drove over Walker Pass to Lancaster. On way through Mojave, I kept an eye out for howhees, since there is one USNM specimen from Mojave, collected by N. Hollister around the turn of the century, but Mojave certainly appears to be completely unsuited for occupancy by fuscus.

My impression of these Kern birds is that they are larger & gray. J. D. 1977 had about 50 Argasid ticks on it. Saved for identification. (Identified by Dr. Deane D. Furman, U.C. Dept. Entomology, Jan. 11, 1949, as Argas fuscus. Total of 99 ticks were saved.)

J. Davis
1949

Berkeley, Alameda Co., Calif. to Red's Meadow, 7500 ft, Sierra
Nat'l For., Modoc Co., Calif.

June 27, 1949

Left Berkeley 0030 (midnight + 30) Monday a.m.,
and arrived at Red's Meadow, via Sonora Pass, at
1:30 p.m. Found our old camp site open and moved
in. Ate an early supper and then went to get our
fire permit at about 5:40. The ranger is Mr.
Verret, who was here last year. He remembered us.
Conversation with him brought out the following.
The road from ~~Red's~~ Mammoth Lakes P.O. to Red's
Meadow is usually open by the 10th - 15th of
June. This year the first party came in on May
27, the earliest in several years. The early opening
was to establish a road camp at Agnew's Meadow,
and work is in progress on a road from Agnew's
to Red's which would eliminate the most dan-
gerous section of the present road. The snow-
fall has been subnormal in this area the past
few years, but ~~last~~^{this} year's was about normal.
However, the weather this spring & summer has been
far warmer than normal, and in spite of heavier
winter snows, there is less snow now than last
year at this time. A stake for sower came in
after we left last fall, and went to work on the
Sciurids, especially Tidellus beldingi, with
a view to eliminating sciurids around
camp sites from the standpoint of disease hazard.

L. Davis
1949

June 27.

Led's Meadow, 7500 ft, Sierra Nat'l Fr., Modesto, Calif.
Mr. Verret said that the ground squirrel and chipmunk populations around camp grounds was way down as a result, but numbers of these animals was normal along trails in the woods and away from camp grounds. The Bel-ding ground squirrel population at Koda Springs Meadow, near the post office, which was considerable last year, is now almost gone, according to Mr. Verret. We have seen 1 chipmunk and 2 Bel-ding ground squirrels about our camp thus far, a great decrease from last year, but since it took the animals a few days to come into camp last year, it is too early to tell whether this decrease is real or not. Betty and I then walked around Led's Meadow proper. Saw a ~~few~~ pair of evening Grosbeaks (♂ & ♀) in some alders & conifers by a stream at the south end of the meadow, 1 Lincoln Sparrow with a beetle larva, or something resembling one, in its beak, 2 ♀ hummers, either caliope or broad-tailed. Around the camp ground, heard many Trail flycatchers, saw 2 philadelph warblers, juncos, kinglet, robin, Hermit Thrushes singing all over. Heard several Western Tanagers. At the north end of the meadow, on our way back to camp, heard a confusion of short, harsh call notes, and long, rattling ones. All this emanated from a pair of Arctic

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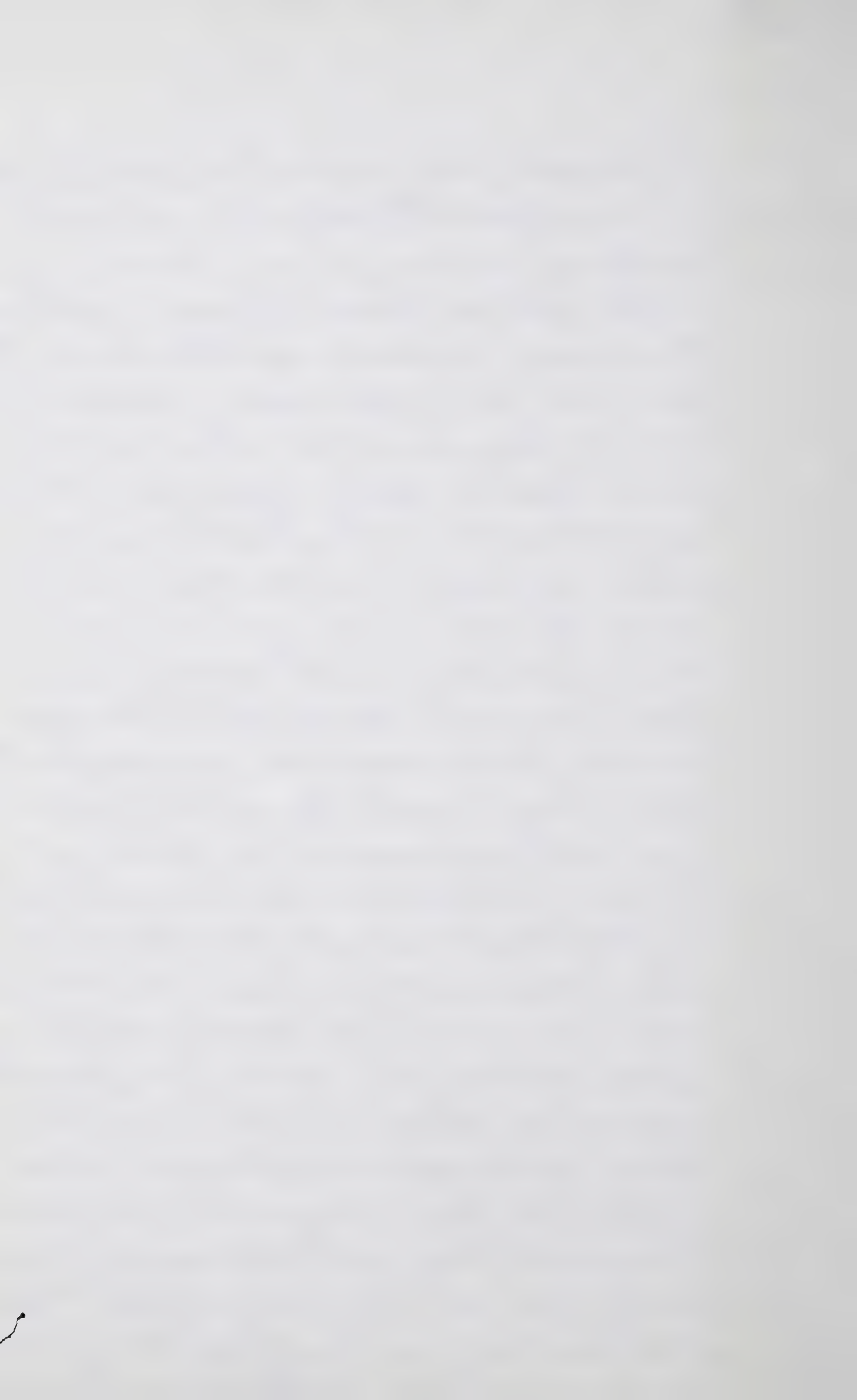
June 27.

Red's Meadow, 7500 ft, Sierra de'l Tor., Matra Co., Calif.
Three-toed woodpeckers, and their nestlings in a nest cavity, the entrance to which is about 7 or 8 ft up in a smooth stub. The nestlings gave the rattling notes, the adults the short, harsh notes. Returned to camp. 4 bats seen flying over the tree tops at dusk.

June 28.

Returned to arid three-toed woodpecker nest at 9:25 a.m. ~~Male brooding young. The golden crown spot visible in cavity, but head pulled out of sight almost immediately.~~ A bird with golden crown had head showing at nest hole. At 9:40 adult ♂ appeared; lit about 8 ft up ~~on~~ on tree adjacent to nest tree, emitted several loud, metallic chinks or chups, then moved to about 11 ft up tree, chipping steadily but more softly. ♂ drummed lightly several times, first time on trunk of tree, all subsequent times at base of small branches. 9:45 ♀ flew in and lit on tree, emitted loud rattling note, and ♂ answered with rattling note at once. Young bird showed head at nest hole, and emitted rattling note, softer than that of adults. ♂ flew to a tree about 30 ft away, ♀ followed to same tree, alit some 2 1/2 ft below ♂. ♂ then flew to another tree about 30 feet away. After numerous flights, as by

Red's meadow, 7500 ft, Sierra de la For, Matara Co., Calif.
 June 28. ♂ + ♀, accompanied by almost incessant
 chirping, and occasional drumming,
 ♂ flew to a tree about 10 ft away, rattled,
 young immediately rattled back, ♀
 flew to ♂'s tree, above male, rattled, then,
 at 9:50 flew and lit below nest hole,
 thrust head in cavity, young thrust head
 out to meet her, ♀ thrust beak into young's
 gullet and fed it, pulled away, thrust beak
 in gullet and fed young a second time.
 Young has black head, golden crown,
 looks very well developed. ♀ flew to ano-
 ther tree, where male was, and they both
 hitched up trunk. Young then made a
 few rattling noises, then remained
 quiet. ♀ flew across road to another tree,
 while ♂ made several short flights to
 other trees nearby. ♂ flew to tree next to
 nest-tree, 15 ft above ground, emitted
 short, subdued, chip noises, then flew to
 a second tree, where he tapped on a small
 branch, making a subdued drumming, then
 chipped some more, drummed again, and
 continued to chip, with occasional drum-
 ming. Has not fed, merely called. ♂ Young
 looked out only once during all of this. 10:05
 Young chipped once + slight movement heard from



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Red's Meadow, 7500 ft, Sierra Nat'l For., Madera Co., Calif.
June 28. within nest cavity. 10:06, ♂ flew east all the way across meadow and disappeared. 10:45 ♀ flew in from west to nearby group of trees. After 30 seconds she flew west across road and sat about 30 ft. up in a tree. Made rattling note twice. 2 minutes later she flew to tree adjacent to nest hole, hopped up and around trunk, looking at nest and trunk alternately. Bill was open $\frac{1}{8}$ inch. ♀ flew and perched below nest hole, seemed about to feed young when apparently frightened, flew to tree 8 ft from nest tree. Young chirped continually throughout all this. ♀ drums on a branch, not propped on trunk but roosting on branch, 20 ft above ground. Beak now closed. Young quiet after drumming. ♀ drums 6 times more. Hops along branch and pecks at it. Flew across road to dead tree, worked along branch pecking at it, looks as though feeding. White-headed woodpecker works higher in same tree. Lost sight of ♀. at 11:10 ♀ drums in same dead tree, drums off and on until 11:30. All quiet. The nest cavity entrance is $6\frac{1}{2}$ ft above ground on west-facing aspect of trunk. External diameter of entrance 5×5 cm. Top rim straight in, then bevelled slightly so confluent with roof. Lower rim $3\frac{1}{2}$ cm. thick, bevelled in and out so saddle shaped. Bark is stripped from tree at about 20" above entrance, from 8-12"

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Calif.

June 28.

Red's Meadow, ~~at~~ 7500 ft, Sierra Nat'l For., Inyo Co.,
below hole. All trees, including nest tree and all
adjacent trees, are Pinus murrayana. Girth
of nest tree 23" at entrance. Tree sways
slightly in wind. Girth of tree 18" to north
of nest tree 38" at nest entrance level. There
are scattered patches on side of tree away from
nest hole where bark has been removed and
bill marks are visible on the exposed wood.
The shavings and splinters of excavated
wood are scattered over an area 5 x 3 ft,
but the bulk are below and slightly to north
side of cavity. Other more scattered chips
probably blown around. 11:45 young
chips, rattles twice, chips, is silent. H. ♀
drums from across road. 11:50 junior
chips several times, rattles, sticks head
way out and looks around, chips, rattles
once more, and chips sporadically. ♀
still drums across road. Junior quiet.
11:53 ♀ emits whicker from across road, a little
different than usual rattle. 11:58 junior chips and
rattles several times, peers out, is quiet by 12:05.
From about 12:15 - 12:45 young bird chipped and
rattled continually, thrusting head & neck out of
hole and peering out. ♀ came back at about
1 and again at 1:45, both times alighting on
adjacent trees & flying away without feeding young.

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June 28.

Red's Meadow, 7500 ft, Sierra Nat'l For., Madera Co., Calif.
Junior Squalled intermittently throughout the next hour or so, chipping and rattling, and at times thrusting his head and neck far out of the hole. The ♀ was in the vicinity most of this time. At about 3 o'clock, the ♀ came into an adjacent tree, then flew to the nest tree and perched below the hole. She fed the young, and flew, and just as she flew, Junior came out of the hole and flew, strongly, though never more than three or four feet above ground, about 35 yards obliquely out into the meadow and settled in the grass. We went after him and caught him in a dip net. Took him to camp and made a box for him. After an hour or so, Betty fed him portions of two grubs we secured from a fallen tree.

Other birds seen today: Evening Grosbeak, a pair in camp, robins, 1 ♂ Audubon Warbler in full breeding plumage, Lincoln and Song Sparrows, 1 each, Pileolated Warbler, Ruby-Crowned Kinglet (several), White-breasted Nuthatch, Trail Flycatcher, White-Crowned Sparrow, Pewee (heard only), Junco, Williamson and Red-breasted Sapsucker.

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June 29.

Red's Meadow, 7500 ft, Sierra Nat'l For., Madera Co., Calif.
The young three-toed woke us up early, and we left camp a little after 5 we went after gulls. Secured 15 or 20, and fed him pieces of grub, which we poked down his gullet. He gets very excited at feeding, and strikes at my hand when not being offered food. He uses the upright log in his cage, perching on it. Pecks a lot at the floor and walls of the cage. Went to Starkweather Lake around 10 a. m. and stayed till around 1:30. Heard Steller Jay, red-breasted nuthatch, saw Cassin Finches. Collected several hundred caddis-fly larvae to feed the imp. Set traps in p. m. Saw in Red's Meadow near ranger station. Saw first mountain chickadee at this camp. In the afternoon, an adult three-toed flew over and gave the rattle call on the wing, and our young one immediately responded, calling several times. Chipmunks are very scarce, none in camp as yet, and only one anywhere near. Heard night hawks calling and diving at dusk.

June 30.

Fed woodpecker on caddisfly larvae. He still makes a big fuss, splattering the larvae all over me, Betty, & himself. At noon, however, he must have been very hungry, as he took the first 8 or 10 larvae from the forceps very neatly and swallowed them rapidly. He was

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June 30.

Red's Meadow, 7500 ft, Sierra de la For. Inadera Co., Calif.
finest, and did not strike at my hand. After
about 10, he started the wild pecking, throw-
ing larvae all over. He called incessantly
all afternoon, and pecked at his cage and
the log frequently. He got away from us
twice today while feeding, both times in
the tent. He flew to the tent wall on both
occasions, the flight still weak and labored.
My impression of Junior thus far is that
he is a mean, ill-tempered little bastard.
I hope he settles down after a few days.
Set traps between Lunice Flat and Starkweather
Lake. Put up one specimen today, a forex
Betty trapped. White-breasted nuthatch in
camp again today. Pine siskins heard about
the meadow. Nighthawks heard at dusk. About
8 p.m. a fisherman came into camp with a
rubber snake. He didn't know what it was,
nor did the ranger, or the people at the General
Store. The ranger sent him to us. This snake
was a bright salmon, or orange-pink, color,
totally unlike any I have ever seen or heard of.
It came from Lost Camp, on the ~~west~~ east bank of
the San Joaquin River, about 3 miles below Rainbow
Falls. The fisherman picked it up on the trail, and
said that it appeared very sluggish. It must
be a new race.

Davis
1949

July 1.

Red's Meadow, 7500 ft, Sierra Nat'l For., Inyo Co., Calif.
The woodpecker started calling at 3:20 a.m. I decided it was more of a liability than an asset, so killed it and put it up. One of the Zapus caught on June 30 died, and I put it up, as well as a Dore + Betty trapped. Spent the p.m. driving around. Took a short walk in late p.m. After supper, heard night hawks, and saw one flying high. Saw 2 Townsend Solitaires near road just this side of Starbweather Lake. Set no traps.

July 2.

Walked to Rainbow Falls in a.m. At 10 a.m. 3 Black Swifts flew out from behind the falls, a single bird followed by a pair. Walked about 1 mile below the falls, along the river part of the time, one ridge away from the river the rest. The country opens out down below. The trees are mainly Jeffrey pine, large, well spaced trees. Leucosticte becomes more common, and scattered manzanita appears. Heard Mountain Quail, saw Steller jays. The finches, which have been around camp, even entering our tent, now have 2 young following them, giving incessant short, buzzy call notes. Last year, the eggs were still unhatched at this time. The whole season seems advanced over last year's, probably due to the warm weather. People who have been here for several summers agree that the mosquitoes are the worst ever, another indication of warm

J. Davis
1949

July 2. Red's Meadow, 7500 ft, Sierra Nevada, Calif. weather. Had one Red-breasted nuthatch in camp today. Set traps in p. m.

July 3. Set up 3 Sorex. Betty and I each caught one Zapus, both in sets at the edge of alder thickets in grassy meadow. Also caught Sorex, Microtus, Peromyscus. Juncos and young still around. Parents still feeding young, although they fly quite well. In p. m. went to Starkweather Lake. Shot a Clark nutcracker from a flock of 4 or 5.

July 4. Betty and I went to Lost Camp, about three miles below Rainbow Falls on the east bank of the middle fork of the San Joaquin R. to hunt for rubber snakes. We put in about 7 hours of looking between the two of us without finding anything. Turned over many logs, and many square yards of humus, without finding a thing. The altitude at Lost Camp is 6600 feet. Incense cedars, small trees, are present in small numbers, scrub oak is present, and the forest floor is well covered by ferns in places. The whole aspect is of a transition from Canadian to Transition. The lodgepoles and red firs have dropped out, white fir is still present, and the pines are all Jeffreys. Rubber snakes must be very rare here, and the snake brought in by the fisherman on June 30 was a rare find.

July 5. Shot a Townsend Solitaire. Set traps in p. m.

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July 5.

Red's Meadow, 7500 ft, Sierra Nevada, Madera Co., Calif.
While walking in a.m. near the meadow, saw
1 Hairy woodpecker and 1 Sierra creeper. In p.m.
we went to Soda Springs, near the Devil's Postpile.
Cassin finches, 1 ♂ + 2 ♀, groundfeeding in the
same place we saw them last year. Saw a young
dipper, working along the river edge. It was very
unsteady, frequently falling as it scrambled over
the gravelly shore. Nevertheless, it bobbed in typical
dipper fashion almost every time it stopped moving.

July 6.

Put up 1 Sorex + falvatus + 2 Sorex sp. Set traps in p.m.
Betty ran across a group of 1 adult ♂ + 1 adult ♀ and
1 young ♂ Evening Grosbeak. Saw several rufous
hummers near the bathhouse. They looked like they
had just arrived, and I noted two pursuits
involving a rufous and a green hummer (probably
the resident Calliope), with the rufous driving the
other bird away each time. Flushed song sparrow ^{N/4}.

July 7.

Put up 3 Sorex and a Tafus which died, one
Betty had been keeping. She saw the same group
of Evening Grosbeaks again while fixing up her
traps. In p.m. Saw young song sparrow in meadow
below ranger station. ♀ robin and 2 young, well-
grown, have been in and out of camp all day.

Davis
1949

Berkeley, Alameda Co., Calif. to Medford, Jackson Co., Oregon.
Oct. 16, 1949

Left Berkeley 7 a.m. Arrived Medford 5 p.m.
Country above Redding looks OK for brown towhees
for most of the way to Dunsmuir. There is a
curious mixture of yellow pine with digger
pine and chaparral. The yellow pine-black
oak belt at times appeared of sufficient
density to perhaps stop carolae, but there
was always a reappearance of digger
pine-chaparral. It is almost impossible
to state definitely whether or not brown
towhees could go all the way from the
Sacramento Valley into southern Oregon,
at least judging by the terrain traversed
by the highway (99W). Certainly there
is a change in habitat just outside
Yreka, just about on a level with Mon-
tagne, from which bullatus has been
reported & collected, the southernmost re-
cord for this race. The hillsides are
extensively clothed with Ceanothus, and
there are many, though widely-spaced,
junipers. Farther north, near the Oregon
line, there is extensive oak woodland
and Ceanothus is widely distributed.
There are occasional stands of yellow pine
and Douglas fir interspersed with the

Davis
1949

Oct. 16.

Medford, Jackson Co., Oregon
oak woodland-Chaparral. This latter
is predominantly Ceanothus-Arctostaphylos-
Arbutus menziesii
scattered but of great size. Good Towhee
habitat obtains from Yreka to Medford.
Medford, Jackson Co., Oregon - Grants Pass, Josephine Co.

Oct. 17

Drove from Medford to Grants Pass and
neither saw nor heard Towhees, although
there were extensive stands of Quercus-
Ceanothus-Arctostaphylos-Arbutus.
2 mi. W Grants Pass, hunted for 1 1/2 hours
in an extensive, unfested oak-chaparral
area, neither seeing nor hearing Brown
Towhees. Spotted Towhees + Wren-tits common,
Song Sparrows occasional. This was per-
fect Brown Towhee habitat, lots of clear-
ings ringed by open brush, and a
large cleared area with a widely spaced
growth of some perennial, with a beautiful
chaparral edge, but many a P. fuscus.
It was very cold, a light snow flurry
at about 9:30 a.m., and overcast much
of the time. Drove back to Gold Hill,
turned off on Old Stage Road toward Jackson-
ville, then off on Gall Creek Road. The weather
was better, warmer and sunnier, and
more birds in evidence. Spotted Towhees,

Davis
1949

Oct. 17

Medford, Jackson Co., Oregon to Grants Pass, Josephine Co.
Song Sparrows, larks, flickers, Skeller &
scrub jays. Finally ran across a pair of
P. fuscus in some roadside Ceanothus
by a fence, and took one bird (2025) from
the dense Ceanothus. The other disappeared.
Drove on Gall Creek Road until oak -
Chaparral replaced by liriodendron - Douglas
fir, returned to Old Stage Road and drove
~~to Jackson~~ a few miles toward Jackson-
ville. Country flat, fenced, cleared, &
no good in general. Turned back toward
Gold Hill, turned off on Kane Creek Road,
Drove 2 or 3 miles, didn't look good, so
retraced our path. About 1 mile from
the Old Stage Road saw another pair of
P. fuscus right in front of a house.
Took one from a fence post (2026) and
skinned. Returned to Gold Hill,
took Hwy 234 out of town, ~~home~~ and
saw another pair of brown owls, in
oak trees above a very dense Ceanothus
thicket. Land was fenced, and there were
too many cars on highway, so I couldn't
shoot. They responded to squeaks, but
didn't get within 38 range, & I was
scared to use a 1/2 load. Their notes
are like carolae & petulae, both the

J. Davis
1949

Oct. 17

Medford, Jackson Co., Oregon - Grants Pass, Josephine Co.
soft hiss, & the loud, metallic, chink.
Turned off 234 to Hwy 62, went to
Eagle Point, type locality of bullatus.
Country mostly oak woodland, widely
spaced, small trees, little brush, and
no towhees. Saw bush tits, Lewis and
Acom - String Woodpeckers. Returned to
Medford. All of the country between Medford
and Grants Pass supports extensive oak-
Chaparral formation, with extensive
stretches of seemingly ideal P. fusces
habitat, but the birds seem scarce.
In 7 1/2 hours, we saw three pairs. Both
specimens collected 1st year birds,
yet they were definitely members of a
pair, or rather, of 2 different pairs. The
occurrence of yellow pines & Douglas
fir, and more rarely of incense cedar,
and the presence of occasional pines
or Douglas firs in fields, indicates
a far wider occurrence of coniferous
forest before the giant lumber operations
started in this area. The Chaparral
must have been more restricted. The
occurrence of manzanita in extensive,
pure stands, looks like a succession
following logging off. The Spotted Towhees

Davis
1949

Oct. 17

Medford, Jackson Co., Oregon to Grants Pass, Josephine Co.
have apparently really taken over. I must
have seen and heard at least 30, and could
have collected a dozen or more. Brown tow-
hees are presumably a common resident
in this area. Weather conditions were
ideal this p.m. Pleasantly cool, sunny,
and no wind. Where the birds ~~were~~ were I
can't imagine.

Oct. 18.

Ashland, Jackson Co., Oregon - Gold Hill, Jackson Co., Oregon.
Drove to Ashland in a.m. and tried a lot of
side roads without success. Drove to Gold Hill,
and on the Gall Creek Road, within a few hundred
yards of where I collected 2025, I shot another
from a roadside Ceanothus. This was the
only brown towhee seen all day.

Oct. 19.

Drove all the way to Grants Pass and tried
again without success in a greater fause
of oak-chaparral W of town. Drove to Gold
Hill and found 1 pair of P. fuscus near the
place where we collected 2 before. Shot 1.
The other flew. These were the only brown
towhees seen today. They were silent and shy.
Gave the pair reinforcement note when I
flushed them from a madrone. One flew to
a small oak, and was collected therefrom.
Birds seen today, not seen before - red-naped
sapsucker, mourning dove (2), white-breasted

Davis
1949

Oct. 19.

Gold Hill, Jackson Co., Oregon - Grants Pass, Josephine Co.
nutcracker (1), hairy Woodpecker (1). Plain Titmouse (4), juncos everywhere, golden-crowned Sparrow, song Sparrow, linnet, meadowlark, scrub and Steller jays, Sparrow hawk, spotted Towhee (abundant), wren-tit, robin, western bluebird. Yesterday saw 1 ♀ Valley Quail, 4+ American Mergansers. The weather has been cold all 3 days. Snow flurry yesterday. High the 17th, 52°; expected high yesterday 50°; low night of 17th 30° (fide Ashland radio station). Today was sunny, no wind.

J. Davis
1950

Red's Meadow, 7500 feet, Sierra Nat'l Forest,
Madera Co., Calif.

Aug. 29, 1950 - Sept. 9, 1950

Gerrhonotus coeruleus. One individual, about 1/2
mi. N Red's Meadow.

Thamnophis sp. One young, near San Joaquin
River at Soda Springs Meadow.

Hyla regilla. Tourist Meadow, near Red's Meadow,
one.

Rana boylei sierrae. San Joaquin River at Soda
Springs Meadow, one, in water. Red's Creek at Red's
Meadow, one heard.

Colymbus caspius. Sotcher Lake, Sept. 4, 1950,
three adults and one immature; Sept. 6, 1950, one
adult in company with three shovellers, and one
immature, solitary.

Spatula clypeata. Sotcher Lake, Sept. 6, 1950. Three,
females or immature males, accompanied by
an adult eared grebe.

Accipiter gentilis. A hawk was seen at Agnew
Meadow, 6 mi. N Red's Meadow, Sept. 7, 1950. It was
almost as large as a red-tail, and as ~~it~~ flew showed
a dark gray dorsum. The tail, seen through 9x35 bi-
noculars, was striped broadly with gray and black,
and tipped with white. Referred to this species.

Buteo jamaicensis. Seen several times at or near
Red's Meadow. Possibly the same individual.

Bandion taliaetus. Seen once, Red's Meadow, Aug.

J. Davis
1950

Red's Meadow, 7500 feet, Sierra Nat'l Forest,
Madera Co., Calif.

Aug. 29, 1950 - Sept. 9, 1950
29, 1950.

Actitis macularia. Sotcher Lake, Sept. 4, 1950, one.

Larus sp. Sotcher Lake, Sept. 4, 1950, one. Probably
californicus.

Selasphorus sp. Red's Meadow, one ♀.

Colaptes cafer. Heard several times at Red's Meadow.

Sphyrapicus sp. One female or immature bird,
seen in flight briefly at Red's Meadow.

Dryobates villosus. Single birds seen several times
at Red's Meadow.

Empidonax traillii. Single birds seen several
times at Red's Meadow and Agnew Meadow.

Tachycineta thalassina. Small flocks seen once
each at Rainbow Falls, Red's Meadow, and Soda
Spring Meadow.

Lyanoritta stelleri. Common and widely distributed.

Mniotilta columbiana. Seen and heard frequently at
Red's Meadow and Agnew Meadow. Possibly driven
down from high country by bad weather.

Parus gambeli. Very common everywhere.

Sitta carolinensis. Seen a few times at Red's Meadow.

Sitta canadensis. Common everywhere.

Certhia familiaris. Seen many times. Widely distributed.

Cinclus mexicanus. One individual, San Joaquin
River at Soda Springs Meadow.

Davis
1950

Red's Meadow, 7500 feet, Sierra Nat'l Forest,
Madera Co., Calif.

Aug. 29, 1950 - Sept. 9, 1950

Turdus migratorius. Common, Red's Meadow,
Agnew Meadow.

Myadestes townsendi. One spotted juvenile,
Rainbow Falls. Seen and heard commonly
at Agnew Meadow and along trail from
Agnew Meadow to San Joaquin River Valley.

Regulus calendula. Common everywhere.

Vireo gilvus. One, in shrub by stream at
Agnew Meadow.

Oporornis tolmiei. Fairly common, Red's Meadow,
Sotcher Lake, Agnew Meadow. By creeks or lake
shore.

Wilsonia pusilla. Common, near water, at Red's
Meadow and Sotcher Lake.

Liranga ludoviciana. Uncommon, seen once at
Red's Meadow.

Passerina amoena. One male, seen for about an
hour foraging in a willow thicket at Red's Meadow,
Aug. 30, 1950.

Hesperiphona vespertina. One individual, seen at
Red's Meadow.

Larodacus cassinii. About 15 seen at Agnew
Meadow, Sept. 7 and 8, 1950, foraging at meadow edge
and perching in alders, willows, and firs at
meadow edge.

J. Davis
1950

Red's Meadow, 7500 feet, Sierra Nat'l Forest,
Madera Co., Calif.

Aug. 29, 1950 - Sept. 9, 1950.

Lophoceros curvirostris. A flock heard calling from high overhead, Red's Meadow, Sept. 7, 1950. Later the same day, a flock of about 10, probably same flock, seen in Red's Meadow Campground, feeding on lodgepole pine cones in trees and on ground. Flock mixed, adults and immatures. Several heard calling and later seen, same locality, Sept. 8, 1950; one immature in camp, approached to within two feet of me, while foraging on ground, and others heard, Sept. 9.

Chlorura chlorura. At least two individuals in camp every day, Red's Meadow.

Junco oreganus. Common and widely distributed. Largest aggregations seen foraging in and about willow thickets at shore of Sucker Lake and in willow thickets at Tourist Meadow, near Red's Meadow. Many juvenals.

Zonotrichia leucophrys. Common and widely distributed. Many immatures.

Passerella iliaca. Two individuals in camp nearly every day, one adult, one immature.

Melospiza lincolni. Two individuals seen several times near creek at camp, Red's Meadow.

Melospiza melodia. Two individuals seen several

J. Davis
1950

Red's Meadow, 7500 feet, Sierra Nat'l Forest,
Inadera Co., Calif.

Aug. 29, 1950 - Sept. 9, 1950
Times along creek at camp. One individual
in camp on several occasions.

Sceamys latimanus. One individual recovered
from the creek flowing past camp at Red's Mea-
dow. Mouth was bloody. The animal was
placed in loose pumice gravel at the creek
edge and pushed its way underneath the
surface immediately. About one hour later,
the spot was revisited, and a subsurface
tunnel had been pushed through the gra-
velly area and into the streamside vegetation.
The animal was not seen again.

Sorex palustris? One afternoon, an animal,
apparently a large shrew, swam down a
short stretch of open water in the creek at
Red's Meadow and disappeared beneath the
undercut bank. It was not seen again.

Bats of various sizes seen on many occasions
at dusk at Red's Meadow and Sother Lake.

Onychomys americanus. Not seen, but we were told by
Mrs. Lee Verret, wife of the Forest Service Guard at
Red's Meadow R.S., that two had been killed at
Red's Meadow, one last year and one this year.

Mustela frenata. Weasels were seen on several
occasions running or looking by the creek at

J. Davis
1950

Red's Meadow, 7500 feet, Sierra Nat'l Forest,
Inadera Co., Calif.

Aug. 29, 1950 - Sept. 9, 1950

Red's Meadow. My impression is that a large and a small individual were seen on different occasions, possibly a mated pair. At any rate, a weasel (or weasels) is now apparently established in exactly the same territory which I shot a pair ($\sigma^7 + \text{f}$) in 1948. In 1949, no weasels were seen in this territory. The birds reacted only moderately to the presence of the weasel. In 1948, when the birds were breeding, the mobbing and calling was terrific. Littellus beltingi. Adults + young were present on all the meadows visited, although most abundant at Soda Springs Meadow where about 20 were counted within a circle of 10 yards radius.

Littellus lateralis. Common. At least 6 different individuals in camp. Two young, four adult. Eutamias sp. Very common. Seven in camp at one time.

Tamiasciurus douglasi. Very common. Young and adults seen and heard constantly at Red's Meadow and Agnew Meadow. Note-calling activity high. This species has been inconspicuous on our three previous visits to Red's Meadow.

Thomomys sp. Gopher workings seen at Agnew Meadow.

Davis
1950

7500 feet,

Red's Meadow, Sierra Nat'l Forest, Madera Co.,
Calif.

Aug. 29, 1950 - Sept. 9, 1950.

Peromyscus maniculatus. Abundant. Young individuals invaded our food stores every night, and could be picked out by flash-light. Six young live-trapped, three one evening within 15 minutes.

Microtus sp. One seen running down trail at edge of creek at Red's Meadow.

Odocoileus hemionus. A few does near Red's Meadow.

Birds seen this trip not previously noted at Red's Meadow: Lazuli bunting,

Crossbill, Green-tailed towhee, fox sparrow.

At Socher Lake: Spotted Sandpiper, Eared Grebe, Shoveller.

Greatest change in mammal population: abundance of chickarees, formerly rarely heard, even more infrequently seen.

